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Soviet Naval Strategy and Programs Through the 1990s

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SOVIET NAVAL STRATEGY AND PROGRAMS THROUGH THE 1990s

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PREFACE

During the two years that have elapsed since publication of NIE 11-15-82, programmatic trends in the Soviet Navy have become more evident, and several notable developments have occurred. The Soviets have, for example:

- Shifted emphasis in submarine construction from strategic ballistic missile to general purpose nuclear attack (SSN) units, and introduced three new SSN classes, all of which probably incorporate substantial advances in sound quieting.¹
- Begun construction of the first unit of a new class of probably nuclear-powered conventional takeoff and landing aircraft carrier.
- Continued the modernization of their surface fleet through construction of four classes of large cruisers and destroyers with improved war-fighting capabilities.
- Begun at-sea testing of a second family of long-range nuclear land attack sea-launched cruise missiles (SLCMs) and a new submarine-launched ballistic missile (SLBM).
- Improved their global military reach, particularly by establishing their first true overseas base at Cam Ranh Bay, Vietnam, with an airfield for surveillance and strike aircraft and a home port for the newly formed South China Sea Squadron.
- Made qualitative improvements in antisubmarine, antisurface, and antiair warfare weapons and sensors; command, control, and communications networks; battle management systems; ocean surveillance capabilities; and radioelectronic combat programs.

The continued allocation of substantial resources for such programs underscores the recognition by Soviet leaders of the value of naval forces in the attainment of wartime and peacetime goals. Coupled with recent Soviet writings on the nature and conduct of modern warfare, and trends in major exercises and overseas naval operations since 1982, these programs also raise questions about the future use of such forces

¹ For more detailed information on Soviet submarines, see SNIE 11-20-84/D, *Soviet Submarine Warfare Trends*, March 1985.

and whether their development indicates basic changes in Soviet naval doctrine and strategy.²

Many aspects of Soviet naval developments have already been addressed in publications by individual departments and agencies, particularly technical studies and short-term assessments. In contrast to those studies, the major focus of this Estimate, which updates NIE 11-15-82, is on the overall significance of current and projected programs for Soviet naval strategy in the late 1980s and the decade of the 1990s, including some of the major options open to the Soviets for performing critical naval tasks. We continue to limit our analysis of Soviet wartime strategy and force employment primarily to the initial stages of a general NATO-Warsaw Pact conflict. This is mainly because any meaningful discussion of subsequent naval operations would be too scenario-dependent and would require estimating the outcome of initial combat. Moreover, regardless of how the Soviets expect a general war would evolve—including any contingency plans they have for protracted conventional, limited nuclear, and/or protracted strategic operations—we believe their naval force employment in the initial stages would be as described in this Estimate.

The groundwork for our assessment is laid by outlining the Navy's current status—its major tasks and the forces that would seek to accomplish them. In addition to providing a basis for examining future developments, an understanding of current forces is especially important for naval estimates because of the long time needed to develop naval systems and the long service life of ships and aircraft. Most of the submarine and major surface combatant classes and many of the aircraft that will be in the Soviet Navy of 2000 are in the late stages of development or already in service today.

The Soviets recognize that their Navy is facing severe challenges to the performance of its missions as a result of improvements in Western naval forces, particularly quieter submarines, longer range SLBMs, greater numbers of SLCMs, and improving defensive systems. To meet these challenges, the Soviets support a variety of research and development efforts. Many of these programs have been identified, and we can make some evaluation of their capabilities based on knowledge of past Soviet programs and current technological state of the art. By

² The terms "naval strategy" and "naval doctrine" are used in this Estimate in the general sense of principles by which forces are guided in their actions. In Soviet usage, "military doctrine" and "military strategy" have very specific meanings. Neither term is applied to an individual service. Military doctrine comprises the views of the leadership of the Soviet state on the nature of future war and the tasks of the state, and the armed forces in preparing for and conducting such a war. Military doctrine is a starting point for military strategy, which directs the armed forces as a whole in a complex system of interdependent large-scale strategic operations. Individual services execute strategic missions but always do so under the overall unified military strategy. The Soviet Navy's missions are firmly defined by this overall military strategy and cannot be properly understood outside that context.

extrapolating from such information, the general nature of future Soviet naval weapons and sensors can be discussed. Such extrapolations may prove wrong, however, because assessments of evolutionary technical progress may be upset by "breakthroughs" that cannot be predicted on the basis of an understanding of the current state of the art. This is particularly important in those aspects of the Soviet effort, such as nonacoustic antisubmarine warfare and space-based ocean reconnaissance/targeting, that involve innovative solutions to naval problems. This Estimate considers some of the potential consequences of such breakthroughs in key areas and speculates on how the Soviets might attempt to exploit their successes.

Finally, the development of the Soviet Navy will occur within the broad context of changes in the Soviet system and the international environment. Although a detailed treatment of these subjects is beyond the scope of this Estimate, some of the possible relationships between such factors as the post-Chernenko succession, economic problems, arms control negotiations, and an increased emphasis on influencing developments in the Third World have been sketched out, especially as they might affect force procurement.

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KEY JUDGMENTS

Since this Estimate was last produced in 1982, the Soviet Navy has continued to evolve toward a balanced fleet increasingly capable of accomplishing a full range of wartime and peacetime tasks. This evolution has been supported by new weapons and sensors, an ambitious naval construction program, substantial advances in submarine sound quieting, heightened use of overseas facilities, and additional operational experience. We have carefully reviewed these developments and other evidence pertaining to future Soviet naval strategy and programs. We conclude that the major judgments of NIE 11-15-82 remain valid.

Soviet naval construction programs continue to emphasize larger ships with increased endurance and technologically advanced weapon and electronic systems which have enhanced the Navy's capability for sustained combat and distant area deployments. Within the Soviets' overall wartime strategy, however, the primary initial tasks of the Navy remain:

- To deploy and provide protection for nuclear-powered ballistic missile submarines (SSBNs) in preparation for and participation in intercontinental and theater nuclear strikes.
- To defend the USSR and its allies from strikes by enemy ballistic missile submarines, aircraft carriers, and—now—long-range nuclear cruise-missile-armed ships and submarines.

Accomplishment of these tasks would entail attempts to control all or portions of the Kara, Barents, and northern Norwegian and Greenland Seas, the Seas of Japan and Okhotsk, and the Northwest Pacific Basin, and to conduct sea denial operations beyond those areas to about 2,000 kilometers from Soviet territory. We continue to believe that virtually all of the Northern and Pacific Ocean Fleets' available major surface combatants and combat aircraft and some three-quarters of their available attack submarines would be initially committed to operations in these waters. Other initial naval wartime tasks are: support of ground force operations in the land theaters of military operations (including countering naval support to enemy operations in peripheral areas such as Norway) and some interdiction of Western sea lines of communication (SLOCs).

We still believe this wartime strategy will remain essentially unchanged through this century. Strategic strike—including strikes by SLCM-armed submarines—protection of SSBNs, and strategic defense against enemy SSBNs, aircraft carriers, and other major platforms capable of nuclear attack on Soviet territory will continue to be the Soviet Navy's primary initial wartime tasks. We expect these requirements—particularly the need to counter Western units armed with the Tomahawk land attack cruise missile—will, however, drive the Soviets to expand the area in which their Navy would initially deploy the bulk of its Northern and Pacific Ocean Fleet forces for sea control/sea denial operations—possibly out to 3,000 kilometers from Soviet territory.

A principal portion of the strategic defense task—the destruction of enemy SSBNs before they can launch their missiles—will continue to pose severe difficulties for the Soviets. The deployment of hard-target-capable US SLBMs, improved British and French SSBNs, and the first Chinese SSBN probably will increase the importance of this task. The Soviets also will have to contend with Trident II SLBM-equipped SSBNs operating in much expanded patrol areas. We do not believe there is a realistic possibility that the Soviets can deploy in the 1990s a system that could reliably detect and track US SSBNs operating in the open ocean. We therefore expect that Soviet naval anti-US SSBN operations will continue to be modest, with relatively few attack submarines stationed in the approaches to US submarine bases. Operations against non-US SSBNs—which would become increasingly vulnerable to improved Soviet antisubmarine warfare (ASW) in the late 1980s—should increase.

We believe the Soviets will continue to regard destruction of Western aircraft carriers operating in Soviet sea control/denial areas as a critical initial wartime task, requiring coordinated strikes primarily by large numbers of missile-armed aircraft and attack submarines. Recent evidence suggests the Soviets believe destruction of US carrier battle groups, with improved antiaircraft and antimissile defenses, is becoming more difficult during the conventional phase of hostilities.

The potentially most significant aspect of recent Soviet naval developments has been an extensive program to improve USSR under-sea warfare capabilities. Progress in Soviet submarine quieting, evidenced in the O- and S-classes, and sonar and signal-processing improvements [

] Only about half of the Soviet nuclear attack force will be composed of quiet submarines, however, and hence the US submarine force will still enjoy a significant overall acoustic advantage in submarine warfare into the mid-1990s.

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The qualitative improvements we now project for the general purpose nuclear submarine force could—along with other developments—enable the Soviets by the mid-1990s to reduce somewhat the number of SSNs dedicated to protecting the SSBN force. We believe any such frontline submarines freed from this mission would probably be used primarily to increase the density of ASW barriers in the forward areas of expanded sea denial zones and/or as SLCM carriers. Some could be assigned anti-SSBN tasks. A few older SSNs could have an anti-SLOC role.

We remain convinced that Soviet procurement of naval weapons, platforms and systems over the period of this Estimate will be driven primarily by requirements stemming from the strategic offensive and defensive tasks outlined above. We therefore expect the following developments:

- The size of the modern ballistic missile submarine force will remain roughly constant—between 60 and 70 units—through the mid-1990s. The number of SLBM warheads is likely to increase substantially from the deployment of new missiles with multiple independently targetable reentry vehicles (MIRVs).
- The Soviets will deploy long-range nuclear-armed land attack cruise missiles capable of being launched from a variety of naval platforms. We believe they will be deployed primarily on newer nuclear-powered attack submarines for use in theater strike roles and also against some targets in the continental United States. Deployment of some SLCM-armed submarines patrolling off US coasts will become a permanent feature of the Soviet peacetime strategic posture. These units probably will augment and could eventually supplant Y- and D-class SSBN patrols near the continental United States. They offer the potential dividend of complicating US defensive tasks and forcing a major investment in expanded early warning/air defense systems to counter them.
- The first unit of a new class of nuclear-powered conventional takeoff and landing (CTOL) aircraft carrier probably will become operational by about 1990.
- The number of principal surface combatants probably will decline somewhat, but the trend toward larger average size, increased endurance, greater weapon loads, and more sophisticated weapon and electronic systems will continue.
- The overall number of general purpose submarines will decline, but the ratio of nuclear- to conventional-powered units will increase substantially.

- The Navy's overall amphibious lift capability will increase gradually. We expect an increase in the size of the naval infantry from some 16,000 to about 22,000 to 26,000 men.
- One or more new classes of underway replenishment ships may be introduced, but construction of such ships probably will continue to receive a relatively low priority. The increasingly modern merchant and fishing fleets, however, will remain important factors in naval logistics.
- The number of Soviet Naval Aviation (SNA) combat aircraft will increase significantly, with the major change being the first at-sea deployment of high-performance CTOL aircraft. The continued production of Backfire bombers and the introduction into SNA of a Backfire follow-on or, less likely, the Blackjack in the 1990s will be an essential element in the Soviets' attempts to expand their sea control/denial efforts against Western surface forces in vital areas such as the Norwegian, North, and Mediterranean Seas and the Northwest Pacific Basin. Naval Aviation bombers will also remain a principal feature of Soviet antisurface capabilities in other areas such as the Arabian Sea. The maritime strike mission will receive increased emphasis within the Soviet Air Force in coming years.
- Major technical improvements in Soviet fleet air defense are likely. New surface-to-air missiles, guns, and laser weapons probably will be introduced. About 200 fighter and/or fighter-attack aircraft operating from the projected new aircraft carriers will add a new dimension to the Navy's air warfare resources.
- Expansion of both sea control and sea denial operational areas will be supported by gradual improvements in Soviet capability to surveil Western surface units and provide targeting assistance for antiship missiles, particularly within about 2,000 kilometers of the USSR. Much of the improvement probably will involve space-based electro-optical and radar systems. These sensors will enable the Soviets to locate, identify, and track most large surface units under favorable conditions; however, optimum tactical exploitation of the information so provided probably would be difficult to achieve. The Soviets' lack of any significant capability to detect deployed submarines, especially in open-ocean areas, probably will remain their major surveillance weakness.

The acquisition of more technologically sophisticated and capable weapon systems and sensors has improved—and will continue to improve—Soviet ability to wage war at sea. Nevertheless, certain other factors that impact on overall Soviet naval readiness will degrade their

capacity to make best use of this hardware. For example, the Soviets still have problems in:

- Personnel proficiency—a largely conscript force hampered by stereotyped, narrowly specialized training.
- Materiel reliability and maintenance—poor quality control, human engineering, and shipboard maintenance.
- Wartime sustainability—inadequate afloat logistic replenishment capability and limited shore-based support.

The Soviets clearly recognize these problems. Their modern combatants are being built to have, among other things, increased sustainability. Training and exercises are becoming more realistic. We nonetheless judge that these aspects of Soviet naval readiness are negative factors today that will be only partially rectified by the year 2000.

Soviet [possibility of more protracted general warfare. At the same time, the Soviets are clearly improving the capability of their forces to operate under a wider variety of potential wartime scenarios. We do not believe, however, that this portends any significant change in the Soviets' plans for employing their naval forces in the initial stages of general war, regardless of their expectations of its likely course. Initial conventional operations would be conducted with an eye toward escalation; and readiness to conduct SLBM/SLCM strikes and attack enemy sea-based nuclear forces will probably remain Moscow's major concerns under any foreseeable circumstances. The importance of the anti-SLOC mission would increase in the event of a prolonged prehostilities mobilization period or if conventional conflict with NATO became protracted. These situations could lead the Soviets to mount a major open-ocean anti-SLOC naval operation. They would almost certainly want to defer any such operation, however, until after they had successfully completed their critical sea control/sea denial tasks and had weakened NATO's capability to defend its sea lanes. Also, through the 1990s, we believe the Soviets will still have insufficient assets to conduct a major open-ocean anti-SLOC operation in the early stages of a NATO-Warsaw Pact war simultaneously with their strategic offensive and defensive tasks, even if such were operationally feasible. Hence, the relatively low priority of open-ocean SLOC interdiction as an initial wartime task probably will not change substantially in this century.

In addition to its wartime tasks, the Soviet Navy will continue to play important peacetime roles, ranging from routine show-the-flag port visits to support for distant-area client states during crisis situations

and limited wars. Given the likelihood of continued instability in the Third World, the use of such naval diplomacy and power projection techniques probably will increase during the 1980s and 1990s.

In this regard, there has been heightened Soviet use of foreign military facilities, especially for reconnaissance and ASW aircraft. The most significant development has occurred at Cam Ranh Bay, Vietnam, with the probable establishment of an operational squadron of ships and submarines and the basing there since November 1983 of a composite air unit. Nonetheless, most other overseas facilities—lacking maintenance and support services to sustain combat—will continue to be of limited wartime utility and will assist primarily reconnaissance and intelligence gathering tasks. Moreover, although the Soviets will continue to seek access to Third World facilities, we do not foresee a substantial expansion in access in the near term in areas where there is not already a Soviet presence. Despite their limited war-fighting contributions, Soviet forces abroad are becoming a more significant factor because they complicate US planning and potentially could impede, disrupt, or delay Western military operations.

One of the most notable changes in the Soviet Navy during the period of this Estimate probably will be the introduction of its first aircraft carriers equipped to handle high-performance CTOL aircraft. We believe that the primary mission of such carriers will be to help expand Northern and Pacific Ocean Fleet sea control operations during a general war. The carriers will also give the Soviet Navy for the first time an ability to project significant power ashore in distant areas in a limited war. Together with other force improvements, they will provide the Soviets the option of using naval force in a number of Third World situations against all but the most well armed regional powers. We continue to believe, however, that major Soviet Navy task force participation in Third World conflicts would be restricted to limited war situations in which the Soviets judged the risk of escalation to war with the United States or NATO to be small.

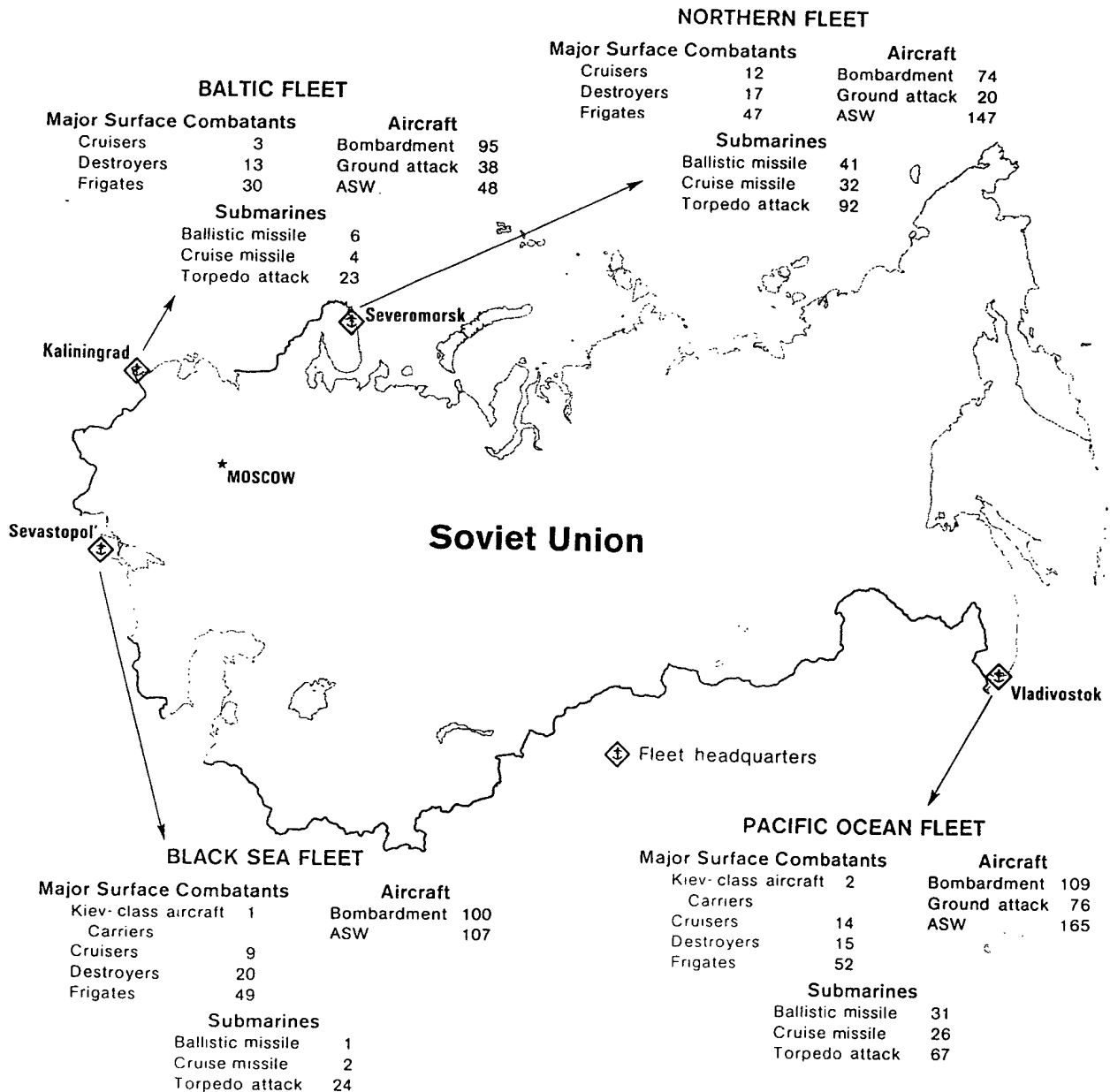
Our best estimate on the future of the Soviet Navy reflects our judgment that the trends we have observed in ship construction, naval doctrine, and strategy over the past 20 years will continue. Among the variables that could dictate a different course for the Soviet Navy of the 1990s are:

- A major ASW sensor breakthrough that gives the Soviets the capability to detect and track enemy submarines in the open-ocean. Although unlikely throughout the period of this Estimate, such a breakthrough would substantially increase the Navy's ability to perform the critically important strategic

defensive task of destroying enemy ballistic missile and land attack cruise missile submarines before they launched their missiles. It would probably lead to major changes in the way the Soviets would deploy their general purpose naval forces before and during general war.

- Arms control negotiations, which could play an important part in determining the role within Soviet strategy and the force composition of the Soviet Navy in the 1990s. For example, severe restrictions on sea-launched cruise missile characteristics and/or deployment would alleviate a serious maritime threat to the USSR and eliminate much of the pressure to conduct sea denial operations at greater distances from Soviet territory.
- Severe economic problems, which could lead to a reduction in Soviet defense spending in the 1990s. Such a reduction would be likely to result in cuts in the Navy's budget, perhaps falling heaviest on major surface ship programs such as the new aircraft carrier, nuclear-powered cruisers, and large amphibious and replenishment ships. The net result of such cuts would be a navy with less capability than the one projected in our best estimate to control waters beyond the range of land-based tactical aircraft and to project power in distant areas. Programs considered essential to the Navy's primary strategic offensive and defensive tasks probably would suffer few, if any, cuts.
- A shift in Soviet military doctrine toward increased emphasis on protracted conventional war. Such a shift would not change the priority of the Navy's primary strategic offensive and defensive tasks but would probably increase the attention paid to SLOC interdiction and naval sustainability issues.

Figure 1
Major Soviet Naval Forces^a



^a Information as of 1 December 1984. These figures do not include units in reserve. Among the other units in the Soviet Navy are some 172 patrol combatants, 78 amphibious-warfare ships, 133 mine-warfare ships, 82 underway-replenishment ships, and 285 other combat aircraft (reconnaissance,

refueling, etc.) Black Sea Fleet figures include the units of the Caspian Sea Flotilla. Naval infantry consists of a division in the Pacific Ocean Fleet and one brigade in each of the three western fleets.

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DISCUSSION

I. CURRENT NAVAL STRATEGY AND PROGRAMS

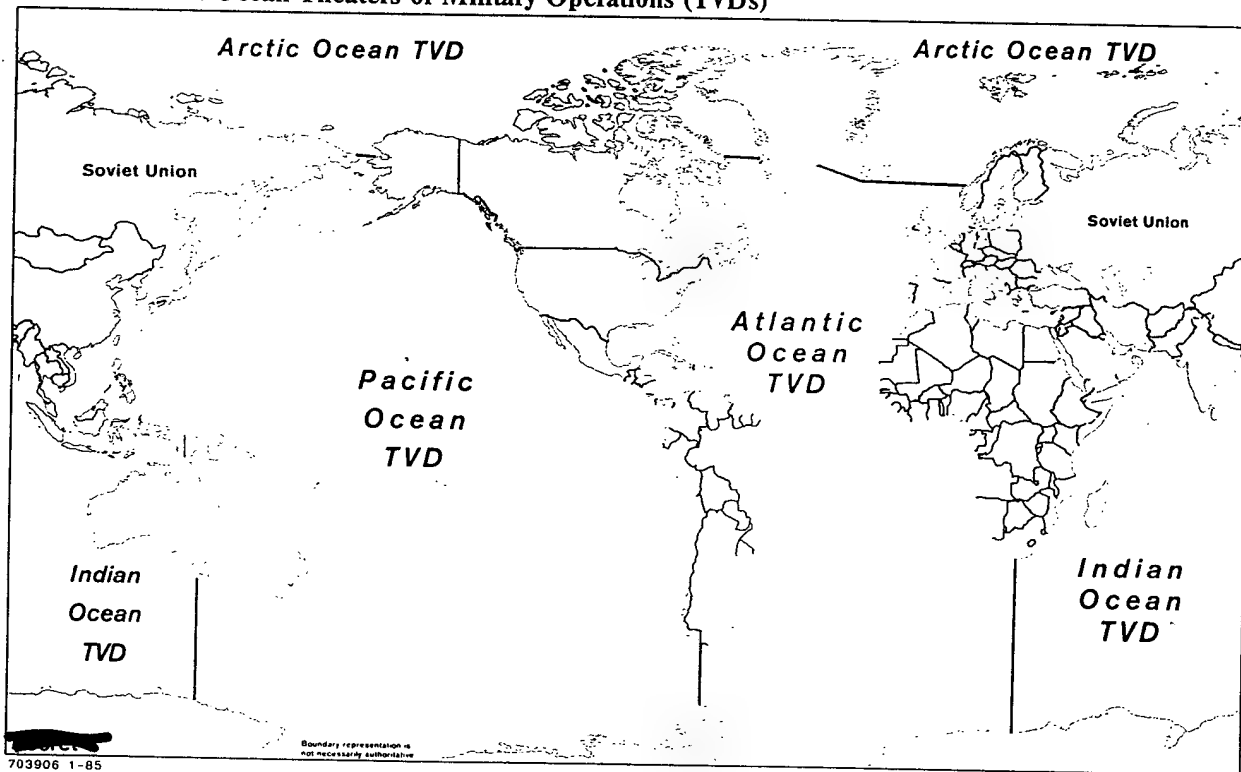
A. Introduction

1. Since 1982, when this Estimate was last produced, the Soviet Navy has continued to evolve toward a modern, balanced fleet capable of accomplishing a full range of wartime and peacetime tasks. This evolution has been supported by new weapons and sensors, an ambitious naval construction program, substantial advances in submarine sound quieting, heightened use of overseas facilities, and additional operational experience. The following paragraphs describe our understanding of Soviet programs and current naval strategy, particularly how Soviet forces would be employed initially during a general war.

B. Force Composition, Organization, and Readiness

2. The primary forces of the Soviet Navy consist of 79 ballistic missile and 270 general purpose submarines, 284 large surface combatants, and nearly 1,300 naval combat aircraft. They are organized into four fleets—the Northern, Baltic, Black Sea, and Pacific Ocean Fleets (see figure 1). The Soviet Navy maintains three standing deployed forces: the Mediterranean Squadron, which draws its forces primarily from the Northern and Black Sea Fleets; and the Indian Ocean and South China Sea Squadrons, drawing forces mainly from the Pacific Ocean Fleet. Additionally, since late 1970, the Soviets have maintained about six ships off the west coast of Africa.

Figure 2
Probable Soviet Ocean Theaters of Military Operations (TVDs)



3. Control of the armed forces of Warsaw Pact countries in wartime would be transferred to a Soviet Supreme High Command (VGK), with the Soviet General Staff as its executive agent. To give this centralized command structure some flexibility, the Soviets have divided areas of anticipated military action into geographical entities called theaters of military operations (TVDs), including probably four ocean TVDs (see figure 2). High commands established in these TVDs probably would directly control those forces within their respective areas, except for those forces remaining under the control of the VGK:

- We believe the Northern Fleet commander controls all general purpose military operations in the Arctic and Atlantic TVDs. Some units, such as those involved in amphibious operations in the Northern Fleet area, probably would be subordinate to the command of the Northwestern TVD, emphasizing operations against Norway. We believe that, for efficient command and control, a high command could be created for this TVD. We also believe that the bulk of the Northern Fleet's forces would operate within the Arctic Ocean TVD, encompassing all sea areas north of the Greenland-Iceland-United Kingdom (G-I-UK) gap. Strategic forces—including SSBNs, aircraft on strategic missions, and some SLCM-armed platforms—operating in these ocean TVDs would be under the direct control of the VGK for weapon system targeting and launch control.
- The subordination of Pacific Ocean Fleet forces and the responsibility of the fleet commander probably are similar to those of the Northern Fleet. We believe the Pacific Ocean Fleet Commander would control all general purpose military operations in the Pacific Ocean TVD. Some units, such as those planned for operations against China and the Japanese islands, probably would be controlled by the high command of the Far East TVD. Forces in the South China Sea would probably be subordinate to the Pacific Ocean Fleet. The Indian Ocean Squadron would also be subordinate to the Pacific Ocean Fleet—possibly in a separate Indian Ocean TVD—unless a high command were formed in the Southern TVD, in which case, the squadron would be responsive to the high command. As in the Northern Fleet, forces performing strategic missions in the Pacific Ocean TVD would be under the same degree of direct control.
- The Baltic Fleet, as part of a combined fleet with the Polish and East German Navies, would be subordinate to the high command of the Western

TVD. This theater would encompass primarily operations against West Germany, Denmark, the Benelux countries, and France, and against NATO and other forces in the Baltic and North Seas.

- The Black Sea Fleet, as part of a combined fleet with the Bulgarian and Romanian Navies—as well as forces of the Mediterranean Squadron—would be subordinate to the high command of the Southwestern TVD, encompassing primarily operations against Turkey, Greece, and Italy, and NATO forces in the Mediterranean.

4. *Readiness Philosophy.* Although Soviet naval presence has expanded globally in the past two decades, only a relatively small portion of the Soviet Navy is still regularly deployed away from home waters. This is largely due to the Soviet approach to readiness, which differs markedly from that of Western navies. Generally speaking, the Soviet readiness philosophy stresses readiness to deploy for combat on relatively short notice rather than routine deployment of large forces. To achieve a maximum force generation capability in times of crisis, the Soviet Navy emphasizes maintenance and in-port/in-area training rather than extended at-sea operations. Even Soviet naval units deployed out of area spend much of their time at anchor or in port. To the Soviet mind, it apparently is more important to be ready to go to sea than to be at sea. Under this system, operational experience and some degree of crew proficiency are sacrificed to achieve high materiel availability. As a result of this readiness philosophy, the Soviets, given a few days' notice, probably would have more than half of their submarines and major surface combatants available for combat. That figure would climb to about 75 percent within three weeks. We estimate that, given several days' warning, Soviet Naval Aviation would have more than 90 percent of its aircraft available, although this percentage could be sustained for only a short time. (S-INT)

5. *Combat Readiness.* The Soviet Navy has greatly improved its combat capability over the past 10 years, but problems remain that are likely to hamper its readiness to perform under varying conflict scenarios. In particular, the Soviet Navy has been traditionally postured to engage in a short, intense war occurring after a period of tension which provides ample notice to prepare and deploy. This emphasis, coupled with a reluctance to maximize at-sea operations, has resulted in deficiencies—by Western standards—in naval personnel proficiency, materiel reliability, and combat sustainability. The Soviet Navy has recognized these deficiencies and has taken steps to correct them. We

believe that these steps are improving overall readiness, but that, in comparison with some Western navies, many of these deficiencies remain glaring ones, which could constitute important disadvantages in a war lasting more than a month or two.

6. *Personnel Proficiency.* Much of the Soviet Navy's personnel problem stems from the relatively low proportion of career personnel—only some 25 percent. While naval personnel are selected from the better conscripts, disciplinary and morale problems continue to be noted. The Navy's three-year conscription period is insufficient to provide the training and experience required to take full advantage of increasingly complex weapon/sensor systems and naval operations. Conscript training is often simple and narrowly specialized, with little teaching of theory and virtually no exercises coping with the unexpected. Periods spent at sea are probably inadequate to acquire full proficiency with equipment or more than rudimentary knowledge of its tactical employment. These problems and others have been addressed extensively in Soviet maritime literature, and numerous measures have been taken to overcome them. Advanced simulators are being used more extensively in training, compensating somewhat for limited at-sea operations. Perhaps the most effective steps to improve proficiency have been the increasingly demanding and realistic fleet exercises conducted in recent years. [

] The Navy has also stressed exercises involving more combat support and readiness evolutions, as in the large spring 1984 exercise in the Northern Fleet [

7. *Materiel Reliability and Maintenance.* These factors have been persistent weaknesses in Soviet naval readiness. We know the Soviets are aware of these problems and have tried to improve equipment quality control in manufacture and preventive maintenance in the fleet. These efforts appear to be bearing fruit in the newer and more important fleet units, but casualties are still common. Particularly sophisticated technical equipment on certain units often require officers to operate and maintain. The highly automated A-class submarine, for instance, is alleged to be manned entirely by officers. Introduction of ever more complex systems and unfavorable demographic trends will probably exacerbate this problem in the future. We thus believe that materiel reliability and maintenance are and will continue to be negative factors in the Soviets' overall naval readiness equation

and probably would impose significant limitations in protracted conflict, particularly if shore-based repair is infeasible or unavailable.

8. *Sustainability.* Historic Soviet doctrinal emphasis on short war has led to a navy ill-suited for a long conflict. Although there is some evidence that the Soviets are examining protracted conventional war as another contingency option, this factor is not evident in the overall design of their fleet or in the systems we project for the future. Certain newer frontline units are indeed more capable of sustained engagements, as evidenced by increasing use of nuclear power for propulsion and the incorporation of greater weapon loads on new ships and submarines. Nevertheless, they have little afloat logistic support, and reliance on shore support is inefficient and impractical. These problems are exacerbated by the limited endurance of most afloat naval forces. Most large Soviet combatants can operate for only a week or so without refueling, and onboard munitions are generally sufficient for only one intense engagement. These shortfalls are minimized in peacetime by relying on the merchant fleet for a large measure of logistic support. Most merchant ships, however, are ill-suited for operations in a combat environment. We thus believe that, except for the more modern units which will constitute less than half of the Soviet fleet by the mid-1990s, sustainability will prove a weakness for the Soviets in any conflict and a major deficiency in an extended war.

C. Key Aspects of Military Doctrine

9. *Unified Strategy.* The Soviet military establishment operates under a single national strategy, developed by the politico-military leadership of the state, to accomplish wartime goals. This strategy is oriented primarily toward continental interests and requires the coordination and integration of all branches of the armed forces to achieve the USSR's politico-military aims. This unified strategy, with its emphasis on interservice coordination and mutual support, is the basis for the Soviets' "combined arms" approach to war fighting. The Soviets thereby seek to create mission-specific combat groupings with war-fighting capabilities exceeding the simple sum of their components.

10. *Soviet View of General War.* The Soviets' military writings indicate that they believe a war with the West would be decisive, be global in scope, and probably escalate to a nuclear conflict. They generally depict such a war beginning in Central Europe following a period of rising international tensions, with

hostilities initiated by NATO, although this last point may be for internal political purposes rather than a true reflection of Soviet expectations or plans. The war often spreads to the Far East, as China enters to take advantage of Soviet involvement in Europe. In the Soviet view, the conflict would probably evolve through four stages:

- A conventional phase in which a NATO offensive is checked by the Warsaw Pact, and a Pact counteroffensive is launched.
- A transitional period of limited theater nuclear war in which the Pact detects NATO preparations to use nuclear weapons and preempts.
- A decisive phase with large-scale use of nuclear weapons, both intercontinentally and within theater.
- A fourth phase in which residual nuclear and conventional forces come into play.

Since the early 1960s, and continuing to the present, the conventional phase usually has been described as lasting only several days. In the past few years, however, there have been indications the Soviets may expect a more protracted, but still relatively short, conventional war phase. Descriptions of the duration of the fourth phase also have lengthened.

11. Regardless of the length of the conventional phase, the Soviets doubt that a war with the West would be decided at the conventional level. Their initial conventional operations would therefore be conducted with an eye toward escalation. During the initial phase of operations, both sides would attempt to destroy with conventional munitions as much as possible of the enemy's theater- and sea-based nuclear weapons and supporting facilities. The Soviets apparently do not believe that the destruction of potential strategic assets, such as SSBNs, during the conventional phase would by itself trigger an escalation to the use of nuclear weapons.

13. Soviet Wartime Tasks.

allows us to estimate the Soviet Navy's initial wartime tasks with a good deal of confidence. It also permits an understanding of the Soviets' relative priorities in fighting a war with the West. Since the 1960s,

offensive and defensive tasks to be performed concurrently during the first stages of a war with NATO. These tasks are:

- To deploy and provide "combat stability" (that is, protection and support) for ballistic missile submarines in preparation for and participation in intercontinental and theater nuclear strikes.
- To defend the USSR and its allies from enemy sea-based strike forces.
- To support ground force operations in the land theaters of military operations, including protecting Pact sea lines of communication and preventing naval support to enemy operations in peripheral areas such as Norway.
- To conduct some interdiction of enemy SLOCs.

14. The pattern of implementation of these tasks undoubtedly would vary from fleet to fleet. The Northern and Pacific Ocean Fleets would initially be concerned with deploying and protecting their SSBNs. The Baltic and Black Sea Fleets, on the other hand, would initially concentrate on supporting operations in the land theaters. Combating enemy strike groups, especially SLCM-carrying platforms and carrier battle groups approaching the USSR, would also be a major initial concern of all four fleets.

15. The Soviets realize that a conflict may not unfold as they expect. In this case, they would be prepared to reexamine their initial force allocations to these tasks. Readiness to conduct strategic strikes, including the protection of their SSBN force, and to attack enemy sea-based nuclear forces, however, probably would remain their major concerns, regardless of scenario or length of the conventional phase.

D. Strategic Strike

16. The Soviets regard strategic strike against enemy land targets as the primary naval task. This

priority stems from the Soviet belief that a war with the West probably would escalate to the large-scale use of nuclear weapons and from the capability of submarine-launched ballistic missiles (SLBMs) to strike strategically important targets. According to Fleet Admiral of the Soviet Union Gorshkov, SLBMs give navies, for the first time in history, the capability to directly affect "the course and even the outcome" of a war. The Soviet Navy's 62 modern SSBNs, over half of which are Typhoon- and D-class units capable of striking the continental United States while remaining in home waters, carry a total of 940 SLBMs, or about 2,000 nuclear warheads (as of mid-1984). This represents about 25 percent of the USSR's estimated deployed strategic warheads.

17. The day-to-day disposition of Soviet SSBNs is governed by the wartime requirement to generate maximum force levels on short notice. The Soviet Navy seeks to maintain about three-fourths of its SSBNs in an operational status, with the remainder in long-term repair.

To maintain this high state of readiness, a relatively small portion of the modern SSBN force—typically about 25 percent or 15 units—is kept deployed at sea. Additional D- and Y-class units are, however, in a high state of readiness in or near home port.

18. Since 1984, the Soviets have maintained a D-class SSBN presence in patrol areas near the US coasts and have frequently operated Y-class SSBNs at or inside the landward boundaries of those nominal patrol areas. An effect of these anomalous patrols has been to reduce missile flight time to US targets to roughly that of the Pershing II missiles aimed at the Soviet Union from Western Europe. These perturbations in Soviet SSBN deployments are a politically motivated "analogous response" to NATO INF deployments in Europe. At current levels they will not appreciably affect Soviet SSBN force readiness before about early 1987, after which the adverse effects would rapidly become significant.

19. We believe most SLBMs would be targeted against administrative centers, communications facilities, and industrial and soft military targets, largely because they do not now have the combination of accuracy and yield to destroy hardened military targets. Some SSBNs, particularly the forward-deployed D's and Y's, probably would participate in initial

strikes against the continental United States. The allocation of SSBNs to initial strikes could increase somewhat if the Soviets develop a hard-target-capable SLBM. Now and in the future, however, many SSBNs probably would be withheld for subsequent strikes or as a residual strategic force. The Soviets probably intend to reload for follow-on operations some of their SSBNs that have participated in the initial nuclear strikes. We judge their capability is limited, however, and any reload operation would involve only a few SSBNs. Moreover, any SLBM reload operation would face such difficulties as pre-positioning reloading equipment; delivering missiles, warheads, and propellants; conducting the operation under threat of attack or collateral nuclear effects; and retargeting. Hence, the contribution to Soviet striking power of any reloading that could reasonably be achieved would be small, making it unlikely that SLBM reload figures prominently in Soviet war plans. According to an alternative view, it is likely that the Soviets' reload capability is even less than the limited one assumed above and, therefore, unlikely that reload figures in their war plans even in a small way. The holder of this view believes that the Soviets experimented with the concept of SSBN reloads but decided not to incorporate it into their war plans. Furthermore, this view holds that the Soviets have not chosen to increase even this small reload capability.³

20. *Protection and Support for SSBNs.* The Soviets have long been concerned with the vulnerability of their submarines to ASW forces. Soviet authors frequently cite the experience of the two World Wars to reject the notion that submarines can ensure their own survival through concealed operations. Rather, since at least the 1960s, they have discussed the need to use general purpose forces, including large surface combatants, to protect and support or provide "combat stability" to ballistic missile submarines. Such writings strongly imply that providing combat stability to SSBNs is viewed as critical to the success of the strategic strike mission and the most important initial wartime task of a significant number of Northern and Pacific Ocean Fleet general purpose forces.

21. We believe that the Soviets plan to support and protect their SSBNs through an echeloned defense in depth. This defense would likely begin while the SSBNs are still in port and continue as they are dispersed and enter assigned operating areas. Surface combatants, mine warfare ships, and ASW aircraft

³ The holder of this view is the Director, Bureau of Intelligence and Research, Department of State.

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probably would be used to sanitize SSBN transit routes. General purpose submarines probably would escort transiting SSBNs and, along with aircraft, establish barrier patrols in the approaches to SSBN operating areas. Surface combatant task groups also would probably operate in the vicinity of such areas to assist in combating enemy SSNs and ASW aircraft.

22. Protection of SSBN operating areas entails attempts to control all or large portions of the Kara, Barents, and northern Norwegian and Greenland Seas as well as the Seas of Japan and Okhotsk and the area off the Kamchatka Peninsula. It also involves sea denial operations beyond these areas to about 2,000 kilometers from Soviet territory. Some facets of the echeloned defense, such as the operation of attack submarines in proximity to SSBNs and the protection of the waters near the ice edge, would serve only one main purpose—the protection of SSBNs—because the only Western units likely to be in such areas would be those attempting to attack the SSBNs. Most of the units involved in the echeloned defense, however, would also contribute to other important tasks, particularly the defense of Soviet territory from attacks by Western forces and the prevention of naval support to Allied operations in peripheral areas such as Norway and Korea. Attack submarines, aircraft, and any surface combatants operating near the G-I-UK gap, for example, would seek to destroy any Western submarines or major surface combatants detected, thereby protecting both the SSBNs and the Soviet homeland. Forces operating in these waters, therefore, would be accomplishing several important tasks at the same time.

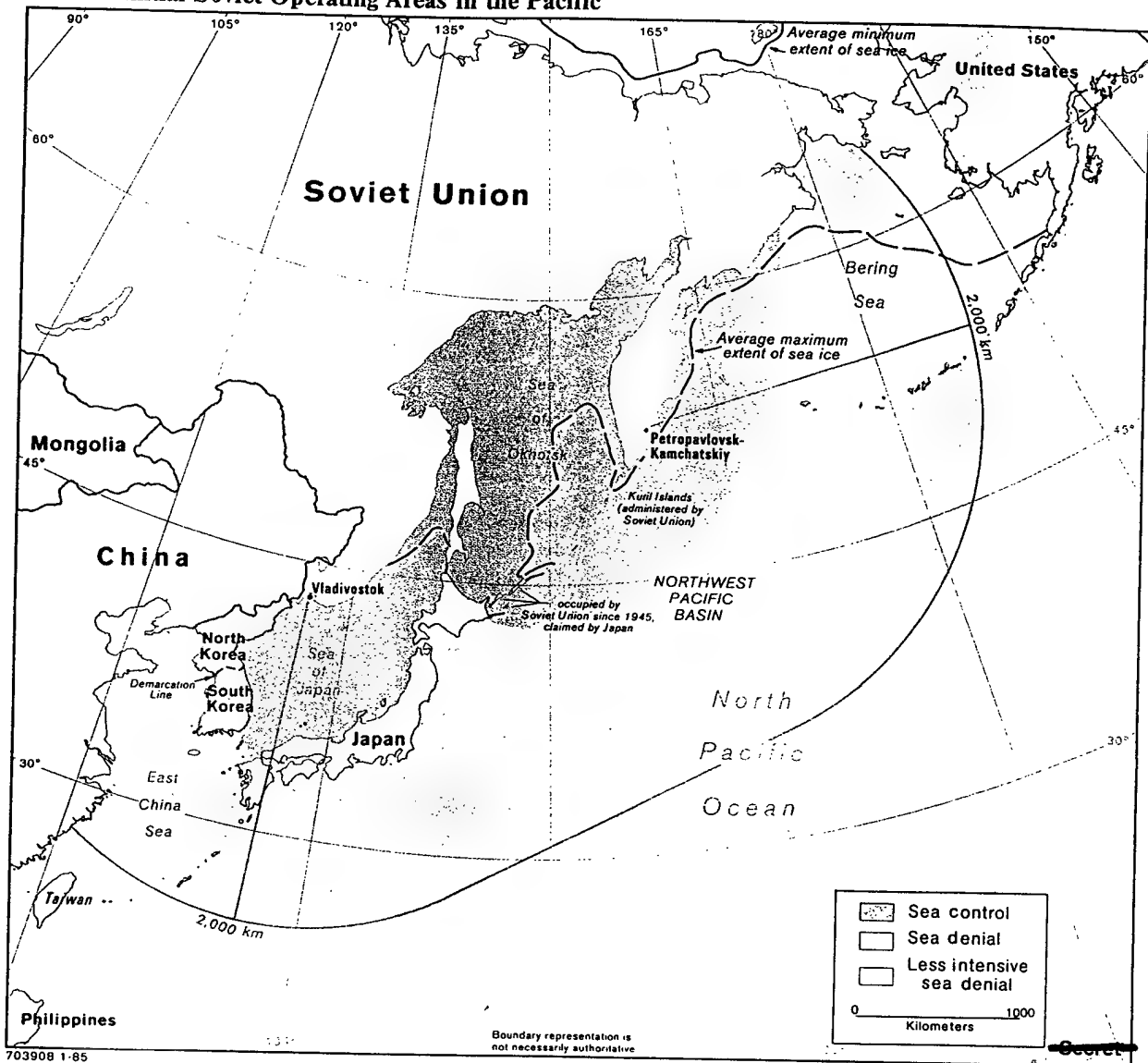
23. We believe that virtually all major surface combatants and combat aircraft available in the Pacific Ocean and Northern Fleets and some three-quarters of their attack submarines would be initially committed to conducting "sea control" and "sea denial" operations in these waters (see figures 3 and 4 and accompanying text inset), leaving relatively few units available for operations in areas such as the Central Pacific and North Atlantic. Given the recent Soviet emphasis on a more protracted conventional phase of hostilities and the likelihood that many SSBNs will be withheld from initial strikes, the requirement to protect SSBNs could tie down substantial assets for an extended period. The Soviets probably would be reluctant to release substantial forces from this task until most missiles had been launched, they perceived that the threat had significantly lessened, or the course of the conflict dictated increased emphasis on other tasks.

24. There are indications the Soviets have also made some changes to the organization of their forces, probably to improve SSBN protection, by placing SSBNs and general purpose forces under a single command. Within a fleet, forces have historically been organized in major surface force, submarine, naval aviation, naval infantry, and naval base (region) commands. The naval base commands were essentially coastal defense related and had smaller ships and craft assigned. It appears that some base/region commands may have been reorganized and given expanded roles and geographic areas of responsibility. These new organizations appear to be "mixed force" groups with surface ship and submarine assets, including SSBNs. Although the subordination of aircraft in peacetime is unclear, it is likely that some naval aviation assets—particularly short- and medium-range ASW aircraft—would come under operational control of the "mixed force" commanders during wartime.

25. These developments suggest that during wartime a fleet's assets not assigned to deployed squadrons or "independent" operations relatively far from the Soviet Union would operate as "mixed forces." We do not fully understand how the operations of the general purpose forces, normally under fleet control, will be meshed with those of the SSBNs, a VGK asset. We believe, however, that the dispersal and deployment of SSBNs will be governed by a precise, predetermined General Staff-approved plan. The force commander probably would be responsible for the implementation of SSBN dispersal and protection operations by the general purpose forces under his command. The fleet commander probably would be responsible for coordinating the operations of the separate forces. We believe actual firing orders for the SSBNs would come directly from the VGK. The Soviets probably intend that this reorganization will result in simplified transition to a wartime posture, improved responsiveness to rapidly developing situations, and increased flexibility in resource allocations, particularly in the support and protection of SSBNs.

26. *The Role of SLCMs.* New sea-launched, long-range nuclear land attack cruise missiles (SLCMs) will enhance Soviet offensive strike capabilities. Two systems are under development. The SS-NX-21 is probably intended primarily for theater targets in Europe and Asia; but we believe the Soviets probably will deploy SS-NX-21-equipped SSNs near the United States as early as 1985. Such deployments would be consistent with Soviet statements concerning a "response" to NATO INF deployments. Deployment of SS-NX-21s on submarines would require a trade-off in

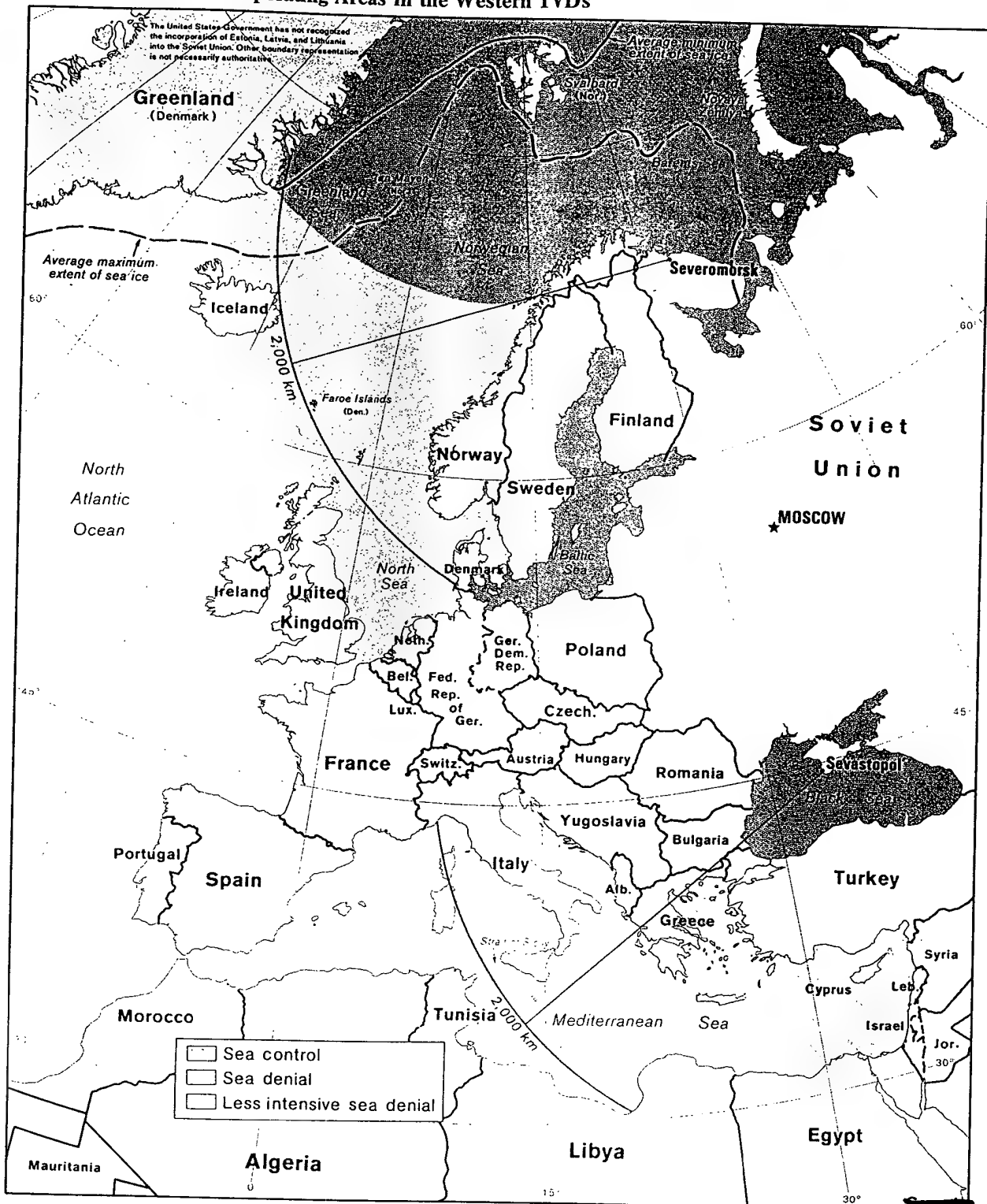
Figure 3
Current Initial Soviet Operating Areas in the Pacific



mission capabilities since they could then carry fewer ASW and antiship weapons. The Soviets' second SLCM under development, the SS-NX-24, probably will be deployed on dedicated SSGNs. Initial operational capability (IOC) is expected in 1986. We have no direct evidence, but believe the mission of the SS-NX-24 will also include coverage of both US and theater targets. If the Soviets employ SLCMs to attack US targets, the missiles might be able to avoid detection by the current US surveillance and warning systems, although new surveillance systems such as over-the-horizon radar and airborne warning and control system (AWACS) air-

craft probably are more capable of detecting them. Launching submarines would be subject to detection by ASW systems. We have no evidence concerning Soviet doctrine for employment of SLCMs against US (or other) targets. But Soviet planners could not be sure that the firing submarines were not being monitored or the weapons detected during flight. They would therefore risk losing the advantage of surprise, giving the enemy warning of the attack. The subsonic SS-NX-21 would have a particularly long time of flight, making it unlikely the Soviets would launch that missile against US targets prior to ballistic missile launches.

Figure 4
Current Initial Soviet Operating Areas in the Western TVDs



The outer edge of the initial Northern and Black Sea Fleet sea denial areas generally conforms to the 2,000-kilometer naval defense thresholds. These initial sea denial areas undoubtedly would expand or contract to take into account geographic features in each fleet area, such as the G-I-UK (Greenland-Iceland-

United Kingdom) gap and the Strait of Sicily. Initial sea denial operations by the Baltic Fleet probably would be limited to the North Sea and Baltic approaches.

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Current Sea Control and Sea Denial Operations

The terms "sea control" and "sea denial" are subject to a variety of interpretations. Generally a state is considered to have "sea control" in an area if it is able to sustain surface combatant and merchant ship operations there with relative security. It is considered to exercise "sea denial" if it prevents such use of the area by its opponent.

The terms "sea control" and "sea denial" are used in this Estimate to indicate the type of naval effort the Soviets probably expect to conduct in various maritime areas at the beginning of a NATO-Warsaw Pact war. Areas labeled "sea control" are those in which the Soviets probably intend to operate surface forces, as well as submarines and naval aircraft, for an indefinite period. Areas labeled "sea denial" are those in which the Soviets probably expect the major share of the combat to be conducted by submarines and land-based strike aircraft. Surface ship operations in these waters will be either nonexistent or of a short duration at the initiation of hostilities. The term "less intensive sea denial" is used to indicate a lower level of effort, primarily by submarines.

The delineation of these areas is heavily influenced by the impact of geography on Soviet naval operations. The Baltic and Black Sea Fleets are separated from open-ocean areas by narrow straits that would be under Western control at the beginning of hostilities. Northern Fleet units would have to transit the G-I-UK gap if they wished to reach the North Atlantic. Most of the Pacific Ocean Fleet units are in a similar situation with only Petropavlovsk having direct access to the open Pacific.

The Northern Fleet. A major consideration in Northern Fleet operations is NATO control of the passages between Greenland, Iceland, the Faroes, and the United Kingdom. Soviet wartime operations in the region of these waters would be likely to involve primarily submarines, which would attack NATO forces attempting to enter the Norwegian Sea through these passages. Operations in this area would contribute to several tasks, including protecting Soviet SSBNs and territory and countering Western naval support to NATO forces in Norway. This area probably would also be the focus for antiship operations by Backfire bombers, which are much better suited than the older Badgers to deal with the likely air defense environment in this area. Also, Backfire and other bomber attacks can be expected on ASW, early warning, and air defense facilities in the gap area. Operations within the sea control area are likely to involve surface ships, submarines, and strike aircraft. Farther north, the Soviets probably intend to use geographic features such as the toe edge and Soviet islands such as Novaya Zemlya to facilitate the operation of their forces, particularly their SSBNs and supporting general purpose forces.

The Baltic Fleet. Operations of the Baltic Fleet in wartime would be heavily influenced by Western control of the narrow Danish straits and by the proximity of the Baltic to major ground and air operations in Central Europe. It is likely that the major effort of the Fleet and the East German and Polish Navies would be directed at controlling the Baltic through the use of surface units, submarines, and a variety of aircraft, including naval fighter-bombers. The Pact would also attempt to deny NATO the use of the North Sea as an operating area for aircraft carriers and a transit area for amphibious groups and logistic units. The principal weapon in such operations probably would be medium and tactical bombers, although they would have to overfly NATO territory to reach their targets. Because of its narrow straits and shallow waters, the Baltic is a particularly good area for the employment of mines.

The Black Sea Fleet. The Soviets and their Romanian and Bulgarian allies would employ surface, submarine, and air assets in sea control operations within the Black Sea. Sea denial operations by the Soviets in the eastern Mediterranean could involve prehostilities reinforcement of their Mediterranean Squadron. Unless the Pact actually controlled the Turkish straits, however, Soviet attempts to continue sea denial operations in the eastern Mediterranean would be hampered by the difficulty of reinforcing the Mediterranean Squadron with additional surface ships and submarines once hostilities had begun. Air operations in the Mediterranean would also be constrained by the need for aircraft based on Pact territory to penetrate Western air defenses. Although significant numbers of Soviet surface units would be involved in initial operations in the Mediterranean, the Soviets probably do not expect these would survive more than a few days. The brunt of the subsequent sea denial effort would be carried by submarines and aircraft.

The Pacific Ocean Fleet. Soviet control of the Sea of Japan and the Sea of Okhotsk would depend on sealing off several narrow waterways, ranging from the Korea Strait in the south to the Kuril Strait at the tip of the Kamchatka Peninsula. Dense defensive minefields probably would be laid in these waters. Sea control operations would also be conducted east of the Kamchatka Peninsula to protect the approaches to Petropavlovsk, the only major Soviet naval base with direct access to the open ocean. Sea denial operations would also be conducted in the East China Sea, the northwestern Pacific, and possibly the northern Philippine Sea. The outer edge of the sea denial area is less easily defined than in other fleet areas because such efforts cannot be focused on narrow waterways through which Western units must pass.

E. Strategic Defense

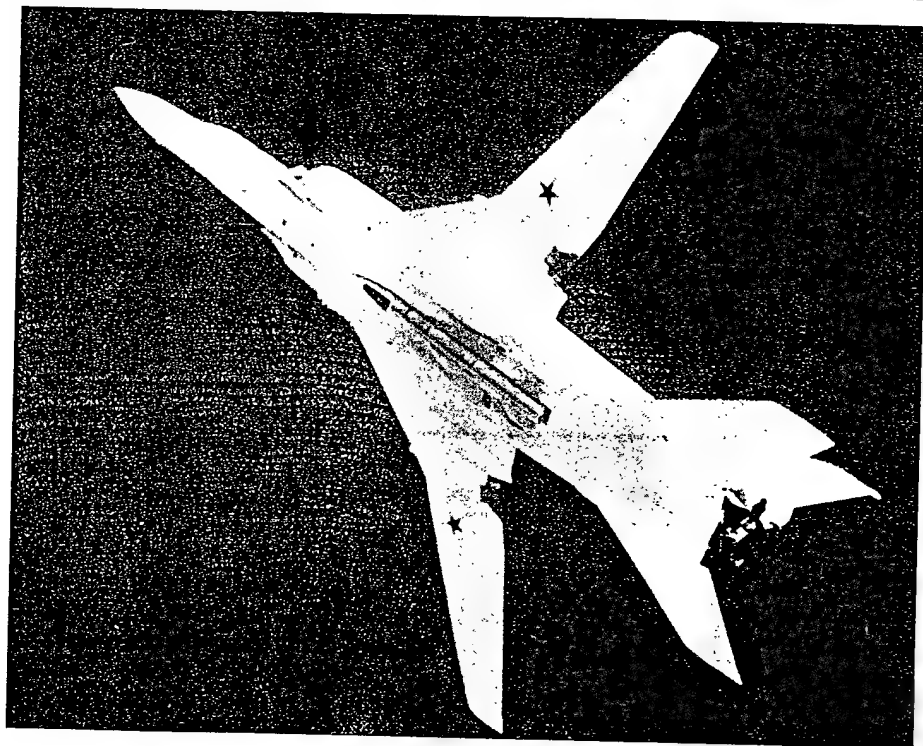
27. *Anti-SSBN*. The Soviet Navy's most critical defensive task is the destruction of enemy SSBNs before they can launch their missiles. The Soviets recognize, however, that there is a wide gap between the importance of this task and the capability of their current forces to carry it out. Soviet writings acknowledge the enormous firepower present in even a single Western SSBN and recognize the desirability of attacking such units during the conventional phase of hostilities. They also recognize, however, that they do not now have the capability to detect US SSBNs operating in open-ocean areas or to maintain a passive trail if a chance detection occurs. The deployment of the US Trident missile system, whose greater range opens up even larger ocean areas that must be searched, further complicates the Soviets' task. The Soviet Navy, realizing the magnitude of the problem and its own shortcomings, probably will concentrate its anti-SSBN efforts on choke points and the approaches to enemy SSBN bases, rather than attempting to search larger ocean areas. On occasion, surface combatants, attack submarines, intelligence collectors (AGIs), and aircraft have conducted joint ASW operations off the Rockall Bank, west of the US and British SSBN bases near Holy Loch, Scotland, during major exercises. We

have also seen operations off SSBN bases in the United States by AGIs operating with SSNs and by Bear F ASW aircraft staging from Cuba. We therefore believe that the Soviets would attempt to have intelligence collection ships, nuclear attack submarines, ASW aircraft, and possibly even surface combatants off Western bases in the period preceding hostilities and attempt to detect and trail SSBNs leaving port. Once hostilities commenced, they would attack any submarine they held in contact. Some of their best ASW submarines probably would be used in this effort, although the number would be small relative to the number committed to protect Soviet SSBNs. [REDACTED]

28. *Anticarrier/Anti-SLCM/Anti-ALCM*. The Soviets continue to have great respect for the aircraft carrier's importance in US naval strategy. They regard aircraft carriers as not only the backbone of American general purpose naval forces, but also an important nuclear reserve force that could play a significant role in determining the outcome of the final phases of hostilities.

the Soviets expect US carrier battle groups to undertake vigorous offensive actions in the maritime approaches to the USSR. They believe that carrier battle groups would attempt to use the Norwegian, the North, and the eastern Mediterranean Seas and the northwestern

Figure 5
TU-22M Backfire
Bomber With AS-4
Antiship Missile



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The Backfire

The introduction of the Backfire bomber in 1974 into the Navy significantly improved Soviet strike capability against NATO surface forces. Because of the high-speed air-to-surface missile it carries, its variable flight profiles, its maneuverability, and its high-speed capabilities and electronic countermeasures (ECM) equipment, the Backfire has a greater probability of penetrating or avoiding NATO naval air defenses and attacking targets in the open ocean than does the Badger.

Some 110 aircraft are in service with Soviet Naval Aviation (SNA), and additional aircraft are being delivered at the rate of about 11 to 13 per year. The first deliveries of the improved performance Backfire C variant have occurred and production of the B variant probably has ceased. SNA Backfires are currently organized into five complete regiments (two in the Baltic Fleet, one in the Black Sea, and two in the Pacific). For wartime operations, the Soviets would deploy and disperse aircraft from their peacetime locations to those areas from which they could best operate against Western surface units, especially US carrier battle groups and SLCM-armed platforms. The Soviets often deploy Backfires from one fleet area to another for exercises; in particular, Baltic Fleet aircraft annually deploy to Northern Fleet bases.

Although the Backfire is capable of carrying a variety of ordnance—including bombs and mines—its principal antiship weapon is the AS-4 missile. The AS-4 can be

armed with either a conventional or nuclear warhead, has a speed of Mach 3 plus, and has a maximum range of some 400 kilometers, although in training it is fired from much shorter ranges. In wartime, each SNA Backfire would carry one or two of these missiles, depending on the range to the target. To concentrate their firepower, the Soviets probably would allocate at least two regiments (roughly 40 aircraft) to attack each carrier in a battle group. In the past two years, Backfire operations over ocean areas have become more frequent. In September 1982, the first use of the Backfire in a simulated strike against a US carrier battle group occurred when Pacific Ocean Fleet units operated against two US carriers east of the Kuril Islands. Backfire aircraft subsequently conducted open-ocean operations during the worldwide exercise of September 1983 and the 1984 spring exercise, ranging as far forward as the G-I-UK gap in the Atlantic and south of the Kuril Islands in the Pacific.

The Soviets undoubtedly view the Backfire as a vital part of their strategic defense forces to keep Western carrier battle groups and other SLCM-armed ships from striking important targets within the Soviet landmass. The Backfire will continue to be an essential feature of Soviet antisurface capabilities in areas such as the Norwegian, Mediterranean, and Arabian Seas and the Northwest Pacific Ocean.

Pacific Ocean to attack Warsaw Pact territory, deployed naval forces including SSBNs and their supporting forces, and Pact ground force operations. Destruction of aircraft carriers, then, is a critical element of several important Soviet naval tasks.

29. Cruise missile submarines and strike aircraft carrying air-to-surface missiles (ASMs) are the Soviets' primary anticarrier weapons. In addition to more than 300 naval Backfire (see figure 5 and inset) and Badger strike aircraft, some elements of the Air Armies of the Supreme High Command (AAVGK) are also assigned maritime strike tasks (see figure 6). AAVGK Bear B/C aircraft have routinely been involved in simulated strike missions against naval targets during Northern and Pacific Ocean Fleet exercises. AAVGK Backfires, Badgers, and Blinders have also been involved in antiship exercises. Additionally, the first overwater attack training by SU-24 Fencer tactical bombers probably subordinated to the AAVGK occurred in 1984. One squadron of Bear B/C aircraft has been modified to Bear G's and now carries the AS-4 ASM—the same missile carried by the Backfire. We believe all of the 65 to 70 AAVGK Bear B/C's will be

modified for this capability by the late 1980s.

30. In wartime, these forces would attack carrier battle groups crossing fleet defensive thresholds, generally some 2,000 kilometers from Soviet territory. Antiship-missile-equipped surface combatants would also be used in areas where they are in proximity to US carrier battle groups at the outset of hostilities or as carrier battle groups approach Soviet sea control areas. Soviet doctrine emphasizes preemptive or "first salvo" strikes against carriers before they can launch air strikes. The Soviets would attempt to use tactical surprise and coordinated multiple missile strikes on different threat axes to overwhelm battle group defenses. Recent evidence suggests the Soviets believe the destruction of US carrier battle groups, with improved antiaircraft and antimissile defenses, is becoming more difficult during the conventional phase of hostilities.

31. The deployment by the US of sea-launched, long-range, nuclear land attack cruise missiles in submarines and surface ships poses an additional dilemma

Figure 6
Selected Soviet ASM-Carrying Strike Aircraft

	Deployment	Fuselage Length (meters)	Maximum Speed at Optimum Altitude (knots)	Normal Payload	Maximum Unrefueled Radius (nm) ^a	Maximum Radius With Prestrike Refueling (nm) ^{a, b}
TU-22M Backfire	CIA Assessment	39	1,050	1 AS-4 or 2 AS-4s or bombs or mines ^c	1,825-2,150 with bombs ^d 1,750-2,075 with 1 AS-4 ^e 1,400-1,650 with 2 AS-4s ^e	2,825-3,200 with bombs ^d 2,700-3,100 with 1 AS-4 ^e 2,600-2,900 with 2 AS-4s ^e
	Naval Aviation and VQK Air Armies					
TU-16 Badger	DIA/Army/Air Force Assessment	39	1,150	1 AS-4 or 2 AS-4s or bombs or mines ^c	2,900 with bombs ^d 2,800 with 1 AS-4 ^e 2,550 with 2 AS-4s ^e	4,000 with bombs ^d 3,850 with 1 AS-4 ^e 3,650 with 2 AS-4s ^e
	Naval Aviation and VQK Air Armies					
TU-16 Badger	C	37	535	1 AS-2	1,540	2,150
	C (Modified)	37	510	2 AS-6s ^f	1,170	1,780
	G	35	510	2 AS-5s or 2 AS-6s or bombs or mines	1,220 with 2 AS-5s	1,850 with 2 AS-5s
TU-95 Bear	B/C	43.9	500	1 AS-3 or 2 AS-4s	3,950	5,050
	VQK Air Armies					
TU-22 Blinder	B	39	790	1 AS-4	1,370	2,460
	VQK Air Armies					

^a These radii are achievable only under optimum conditions and they would be unrealistic in most wartime situations. They allow for only a minimum fuel reserve, and they do not allow for such variables as solar flares, high-speed flight, indirect routing, low-altitude flight, or combat maneuvering. Allowances for such variables reduce combat radii, usually substantially. Realistic maximum radii for the aircraft under wartime conditions probably would be some 30- to 50-percent lower.

^b Assumes that aircraft are refueled by a Bion A tanker at the optimum point for maximum distance.

^c Backfires technically could carry three AS-4s. With three missiles, however, Backfire performance—including range—would be substantially degraded, and we do not consider such a payload likely in wartime.

^d The longer radius values in the assessment of the Backfire by the Central Intelligence Agency are based on its assumed aerodynamic design which is optimized for subsonic performance. While the shorter radius values are based on an assumed supersonic design, CIA has considered both designs because they represent reasonable upper and lower bounds of the Backfire's subsonic cruise efficiency.

Only five Badger C's have been modified to carry two AS-6s. The Badger C (Modified) retains the capability to carry a single AS-2, and it may carry AS-5s in place of AS-6s.

for the Soviets. The potential destruction these weapons can cause and the range from which they can reach targets in the Soviet Union will ensure the SLCM-armed force is accorded a priority at least equal to that of aircraft carriers. In the case of surface ships, the Soviets would attack these units in much the same manner they would aircraft carriers. SLCM-armed submarines are a more difficult problem—one compounded by Soviet inability to distinguish those units armed with Tomahawks from the rest of the Western SSN inventory. We have no evidence to indicate what specific measures the Soviets would undertake to destroy these submarines. Extension of the sea control/denial areas farther from the Soviet landmass, augmented ASW barriers, and attacks in or near their bases are measures that could be employed. We believe the Soviets most likely would attempt to ameliorate this threat primarily by extending farther seaward and increasing the density and depth of their ASW barriers.

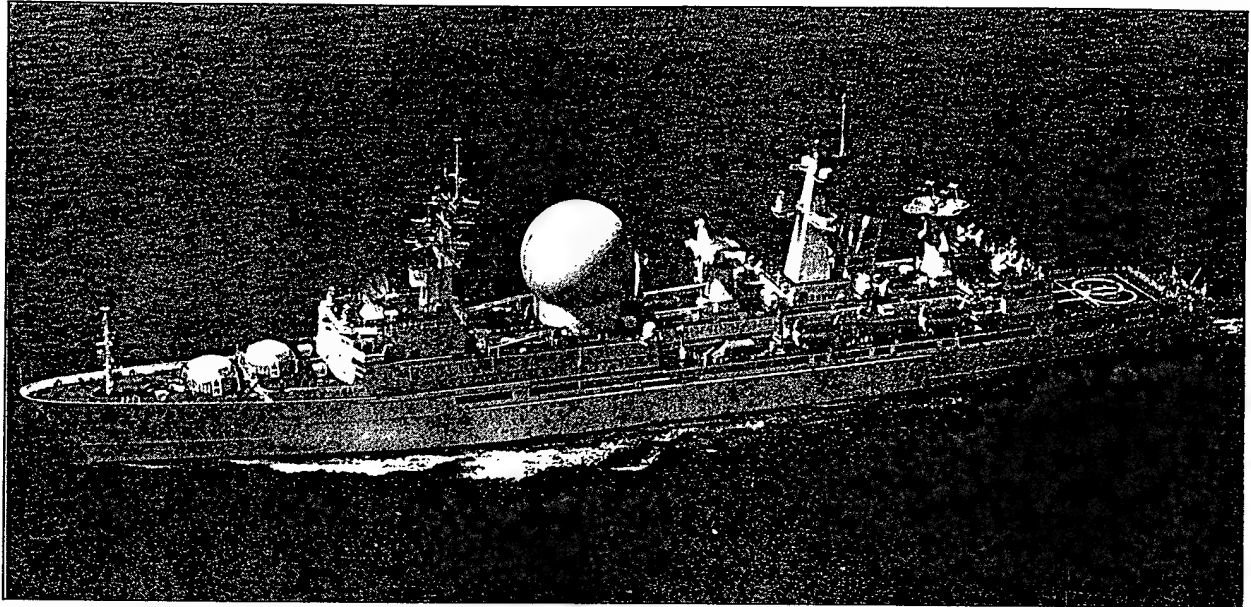
32. With regard to the national air defense role of the Soviet Navy in general, and its anti-ALCM role in particular, the Navy and Air Defense Forces (ADF) are developing an operational relationship to improve both air defense of the fleet and the homeland. A major impetus behind this effort to extend seaward their air defense coverage is the threat posed by highly accurate cruise missiles launched from well beyond Soviet borders by US strategic bombers and naval platforms. The Soviets believe they can better counter this threat by extending their air defense capabilities beyond coastal waters. They probably have developed the capability for direct communications between ADF authorities and Navy facilities and ships. Joint training has thus far been concentrated near shore with the ADF responsible for coordination and integration of air assets. We believe, however, the problems of integrating each service's air defense assets into a cohesive force have not been resolved. Further, the lack of appropriate, continuous joint force training, competing mission requirements, and the failure to implement any comprehensive doctrine or command structure for long-range joint operations indicate the Soviets apparently are not vigorously pursuing this option. In the near term, we believe Moscow will continue its practice of according individual service requirements a higher priority than joint-force operations as the primary means of meeting both naval and homeland air defense requirements. The Soviets are, for example, developing the Air Force Mainstay

AWACS aircraft for forward air defense operations, while the Navy concurrently has two classes of ships—the Marshal Nedelin and a large, nuclear-powered auxiliary designated BAL-AUX-2 (see figure 7)—which probably incorporate new generations of integrated command, control, and communications equipment necessary to extend fleet air defense and battle management capability. Similarly, the deployment of the large CTOL aircraft carrier under construction will enhance substantially the Navy's ability to conduct antiair warfare at greater distances from the USSR. Although these systems and others are being developed to satisfy primarily service requirements, they will offer opportunities for additional and perhaps more effective joint force air defense operations.

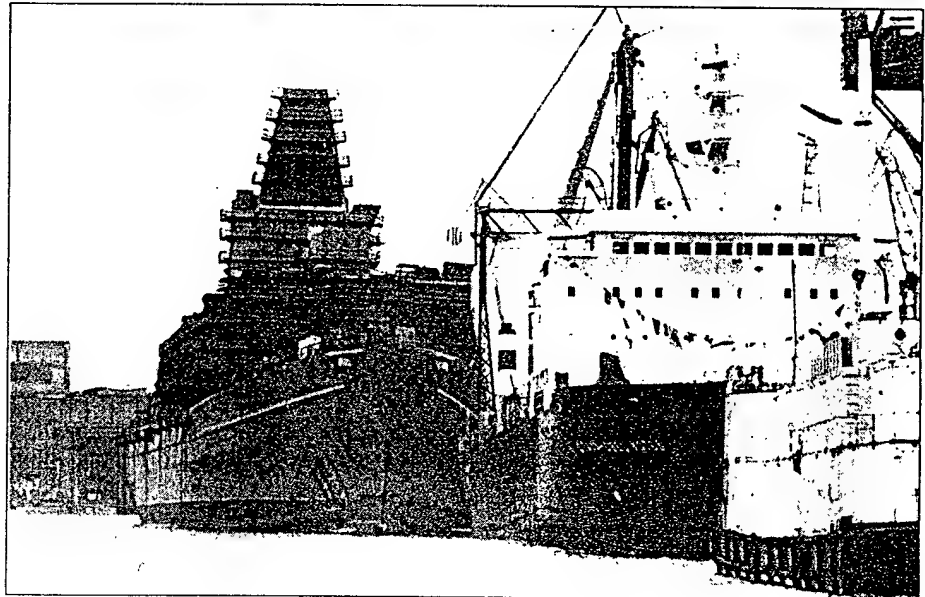
F. Support for Land Theaters of Military Operations (TVDs)

33. Although the Soviet Navy has acquired increasingly important strategic offensive and defensive tasks, support for combined-arms operations in the continental TVDs remains a major responsibility of the Baltic and Black Sea Fleets and a secondary responsibility of the Northern and Pacific Ocean Fleets. In wartime, the Baltic and Black Sea Fleets would join with navies of other Warsaw Pact nations to form the Combined Baltic and Combined Black Sea Fleets, respectively. The broad objectives of these combined fleets would be to gain control of the Baltic and Black Seas and to help secure access to the North and Mediterranean Seas. In the Baltic, initial naval operations would focus on destruction of NATO submarines, missile-armed patrol combatants, and naval aviation forces. Western carrier battle groups would become primary targets, especially for aircraft, as they moved into the North Sea. Amphibious landings in support of ground and airborne attacks on West Germany and Denmark also are likely. In the Black Sea, initial naval operations would focus on supporting the movement of ground forces along the western littoral and assisting in seizing the Turkish straits. Romanian and Bulgarian naval forces would be primarily responsible for patrol duties along their own coasts. The Soviet Black Sea Fleet would assist Mediterranean Squadron operations against Western carrier battle groups and amphibious forces. The Northern Fleet would also conduct amphibious operations in support of ground forces operations against northern Norway. The wartime role of

Figure 7
Soviet New Construction Possible Command and Control Ships



Marshal Nedelin AGE En Route
Operations in the Pacific
Ocean Fleet



BAL-AUX-2 Fitting Out at
Baltic Shipyard in Leningrad

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the Pacific Ocean Fleet's amphibious elements is less well understood. These forces could be used for the seizure of vital straits such as La Perouse or could be retained to defend Soviet coastal regions. Additionally, Soviet Naval Infantry (SNI) troops could conduct limited objective raids in support of a major ground operation against China or reinforce defenses on the Kuril Islands. Forces in each fleet area would also be committed to defending the coastal SLOCs essential to the reinforcement, resupply, and mutual support of the ground forces.

G. Interdiction of Sea Lines of Communication (SLOCs)

34. The Soviets view SLOC interdiction as a less urgent initial task than providing combat stability for their SSBNs and defeating the West's nuclear-capable naval strike forces. They believe that Warsaw Pact forces would defeat the main grouping of NATO forces in Central Europe or the war would escalate to theater nuclear conflict before NATO's seaborne reinforcement and resupply of Europe or US forces in the Far East became a critical factor. Only a few forces—primarily diesel attack submarines—would therefore be allocated to open-ocean SLOC interdiction from the outset of hostilities. The Soviets probably plan to use such units for attacks on shipping primarily to disperse and tie down NATO naval forces and to reduce the efficiency of NATO military shipping. Initial Soviet anti-SLOC efforts would also probably include a bombing and mining campaign against European ports by some SNA aircraft and attack submarines. Such actions probably would be intended to complicate NATO naval operations and facilitate performance of the Pact's more critical initial tasks. We have no evidence whether the Soviets intend to mine US ports, harbors, or coastal waters prior to or in the early stages of a general war. The Soviets could increase their emphasis on SLOC interdiction during a war with the United States and its allies in response to their perception of a changing strategic situation. One circumstance that could motivate the Soviets to widen their emphasis on SLOC interdiction would be the lengthening of the war into a protracted conventional conflict. Another circumstance might be a conflict that began after a prolonged period of mobilization during which NATO began the reinforcement and resupply of Europe by sea. In such a case, the Soviets might see interdiction as an urgent task at the beginning of hostilities. Regardless of the circumstances, the Soviets would almost certainly want to defer mounting any major open-ocean anti-SLOC naval operation until after they had successfully completed their initial sea

control/sea denial operations and had weakened NATO's capability to protect its sea lines.

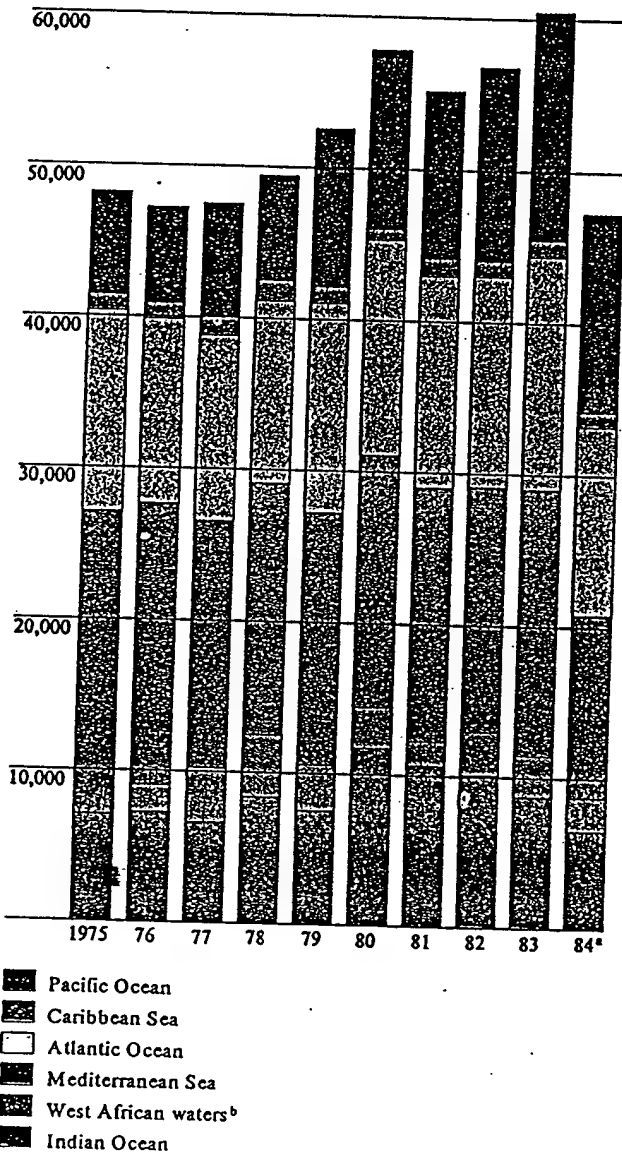
H. Naval Diplomacy in Peacetime and Limited War

35. In addition to its wartime tasks, the Soviet Navy is assigned the important peacetime role of serving as an instrument of state policy or, in more traditional terms, conducting naval diplomacy. Today, Soviet naval forces maintain a continuous presence in the Mediterranean Sea, the Indian Ocean, the Atlantic off West Africa, and the South China Sea. They also conduct deployments to the Caribbean (see figure 8). Although the level of presence has fluctuated within and between geographic areas, the overall level of Soviet surface ship and submarine presence in distant areas has remained relatively stable since 1974. Operations by Soviet naval aircraft have, however, increased considerably since 1979 (see figure 9) and were highlighted by the basing of strike aircraft at Cam Ranh Bay, Vietnam, in November 1983 and the near continuous deployment to Cuba of Bear D/F since early 1983. These out-of-area operations reflect the Soviets' interest in supporting friendly regimes, expanding their position in the Third World (especially in areas of potential Western vulnerability), balancing Western presence, and countering potential strategic threats. Although strategic military concerns remain prominent in Soviet distant operations, particularly in the Mediterranean, the Navy is performing important tasks related to the projection of Soviet power and influence in the Third World.

36. Along with routine show-the-flag deployments and port visits, Soviet naval forces have demonstrated support for friendly nations and sought to inhibit the use of hostile naval forces against Soviet allies. During recent Third World crises the Soviets have augmented their naval presence in the areas of conflict: the Angolan civil war in 1975; the Ethiopian-Somali conflict in 1977-78; the Sino-Vietnamese conflict in 1979; the Iranian hostage crisis in 1979-80; Lebanon and Angola in 1982-83. Such use of Soviet naval forces is likely to continue in future distant-area crises. We do not believe, however, the Soviets would deploy major naval forces in response to a Third World crisis in an area other than the Mediterranean and possibly the South China Sea and Indian Ocean, if they judged the crisis involved a high risk of escalation to general war with the West. The Soviets would probably fear that, if war broke out, such forces would be out of position to perform the initial wartime tasks of protecting SSBNs and the sea approaches to the USSR.

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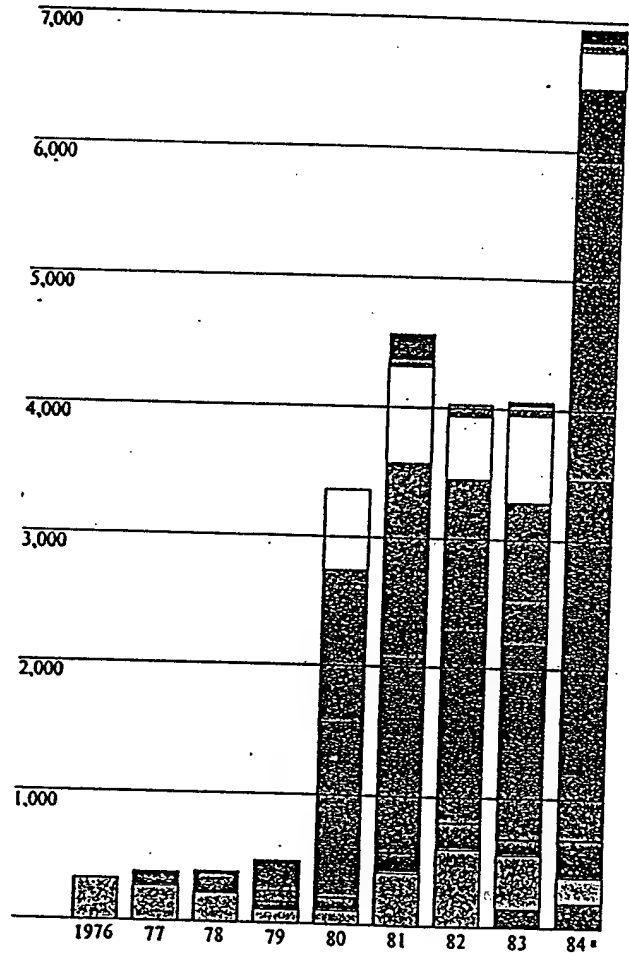
Figure 8
Soviet Ship-Days in Distant Waters,
by Region, 1975-84



^a Data through 30 September 1984.

^b West African ship-days for 1975 are included in Atlantic Ocean data for that year.

Figure 9
Overseas Deployment of Soviet Naval Aviation,
1976-84



^a Data through 30 September 1984.

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37. *Power Projection.* Although Soviet amphibious forces were developed to conduct assault landings on the maritime flanks of the USSR in support of ground theater operations, they could undertake limited assault operations against modest opposition in many areas of the Third World. The amphibious landings conducted on Socotra Island in May 1980 and in Syria in July 1981 demonstrate an interest in and a nascent capability for distant-area projection. The Soviet Navy has never conducted large-scale amphibious landings away from the periphery of the USSR. Exercise ZAPAD-81 in the Baltic, however, included a large-scale amphibious exercise that for the first time used ships drawn from all four Soviet fleets. Units involved included the aircraft carrier Kiev, the helicopter carrier Leningrad, and the amphibious assault ship Ivan Rogov. We believe one of the purposes of this unusual gathering of forces was to test planning concepts for amphibious operations in distant areas. Despite these developments, it is still doubtful that a Soviet amphibious task force could carry out a successful landing abroad against substantial opposition, in large part because of the lack of adequate tactical air support, either land- or sea-based.

38. *Global Reach/Overseas Facilities.* Soviet military involvement abroad primarily is intended to help establish and maintain pro-Soviet regimes and minimize US influence. In addition to these political benefits, some military utility also accrues from foreign involvement: selected allies are strengthened and become more willing to act as Soviet surrogates; Soviet presence enhances the perception of Moscow as an expanding military power whose interests must be considered; and Soviet defenses are strengthened through a network of intelligence gathering, early warning and support facilities. Soviet forces now deployed abroad could not themselves influence the outcome of a general war with the West and are not a significant factor in Soviet defense planning. Operating in conjunction with their overseas allies, however, Soviet forces in those areas have a growing capability to complicate US military planning and to impede, disrupt, or delay Western military operations. Modest, combined naval exercises have been conducted in recent years with Cuban, Syrian, Vietnamese, and South Yemeni Navies. Such exercises with some Third World clients are likely to increase in sophistication. We also foresee no slackening in Soviet efforts to expand their access to foreign facilities, but these facilities, in the near term, will continue to serve essentially as support bases and staging areas from which to wield influence. Most will lack adequate infrastructure to support sustained, high-tempo military operations.

39. The Soviet facility at Cam Ranh Bay, Vietnam (see figure 10)—their first true overseas military "base"—is an anomaly in this pattern. It accommodates the largest concentration of Soviet naval assets deployed outside the USSR. The Soviets now have in place air-to-surface missile loading and handling equipment, ordnance ranges, and communications and intelligence facilities. In addition, the seven surface combatants and four submarines usually present are supported by seven naval auxiliaries. The combatants and submarines probably now form an operational squadron. A group of 16 TU-16 Badgers (including 10 of the ASM variants), four TU-95 Bear D's and four TU-142 Bear F's, and 14 MIG-23 Flogger C's and G's is based at Cam Ranh Bay. This constitutes the first deployment of Soviet bombers with ASMs outside the Warsaw Pact since 1970. We believe that, in the next two years, the submarine and surface combatant presence there could double. Unlike other facilities abroad, the Soviets could defend this base against moderate opposition and sustain combat operations in the South China Sea from it in the initial stages of a general war. Soviet forces there could be used to:

- Counter Chinese SSBNs.
- Attack Western facilities in the Philippines.
- Attack Western SLOCs in the South China Sea.
- Augment the Indian Ocean Squadron.

The Soviets probably regard Cam Ranh Bay as an important base with growing wartime utility; however, they undoubtedly realize their ability to defend it against a concerted attack by Western forces is very limited and would probably remain so even if additional defensive systems were deployed.

40. Like Cam Ranh Bay, Soviet access to well-developed facilities in Cuba is also a special case. Such access could enable the Soviets to more easily sustain naval deployments in the Western Hemisphere. Except for a fleet tug and maintenance and support personnel, there are no Soviet naval forces permanently assigned to Cuba; however, Soviet naval task forces deploy regularly to the Caribbean and use Cuban facilities for replenishment, maintenance, and support. Deployed Soviet Naval Aviation aircraft routinely conduct reconnaissance and ASW missions against the US east coast from Cuban airfields. These deployments serve to signal Moscow's support for the Castro regime, underscore Soviet interest in the region, and provide naval training and surveillance opportunities. Any deployed forces in Cuba, however, would contrib-

ute little to Soviet war-fighting capability in a general war with the West. Although basing some naval forces in Cuba, especially missile-carrying submarines and aircraft, could complement Soviet naval strategy by diverting US resources in wartime, we believe Moscow will eschew such a policy. The Soviet (and Cuban) leadership probably will continue to view the risks inherent in the confrontation with the United States that would follow such an action as outweighing the potential benefits.

I. Trends in Naval Programs

41. The Navy's share of the Soviet defense budget has remained basically unchanged in recent years—about 20 percent. Much of this share has been devoted to ship construction programs, including a variety of surface platforms ranging from small patrol craft to large cruisers. The lion's share of the construction budget, however, continues to be devoted to submarines (see figures 11-13).

42. The most notable trend over the past decade has been an evolution toward what Admiral Gorshkov calls a "balanced fleet"—that is, a navy capable of fighting at both the nuclear and conventional level as well as protecting state interests in peacetime. As late

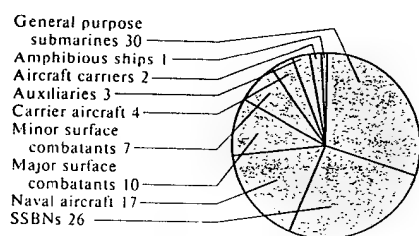
as the mid-1970s, the Soviet Navy could be described as a fleet with capabilities maximized for a short, intense war that rapidly escalates to the use of nuclear weapons. The small weapons loads and limited endurance of most surface combatants severely limited the Navy's ability for sustained combat. In the 1970s, however, new classes of generally larger, more sophisticated ships incorporating greater endurance, larger weapon loads, and extensive communication and electronic warfare systems began to enter service, resulting in enhanced capabilities for sustained conventional combat and distant-area deployments.

43. In recent years, the salient feature of Soviet naval program development has been Moscow's emphasis on modernizing and upgrading the general purpose submarine force. Since 1978, general purpose submarine construction has accounted for over three-fourths of the number of submarines built and about 60 percent of the total annual tonnage. Five different classes are now under construction, some units of one other class are being converted (Y-SSBN to Y-SSN), and we believe the first units of several additional classes will be launched within the next few years. Annual production over the next decade is expected to average about 10 units, seven or eight of which will be

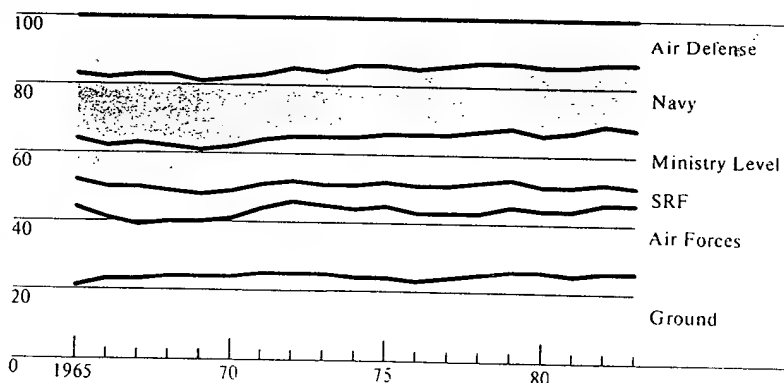
Figure 11
Soviet Naval Spending^a

Percent

Allocation of Naval Procurement,
by Platform, 1974-83

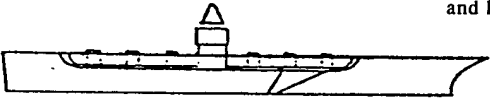



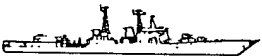

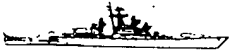


Shares of Soviet Defense Costs, by Service, 1965-83



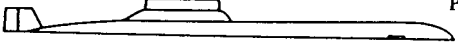
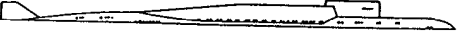

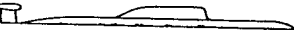
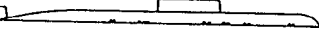
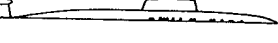
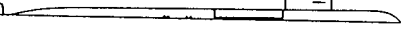

^a These graphics are based on estimated Soviet defense costs in rubles prepared by the Econometric Analysis Division of CIA's Office of Soviet Analysis, using the methodology customarily employed in calculating the costs of Soviet defense activities.

Figure 12
Major Soviet Surface Combatants in Production*

	Major Armament	Propulsion	Full-Load Displacement (metric tons)	Year Operational	Units in Operation
BLK-COM-2 aircraft carrier 	40-60 aircraft (CTOL F/A, VSTOL and helicopters)	Combined nuclear and steam	65,000-75,000	1990	0
Kiev class aircraft carrier 	26-30 ASW helicopters and VSTOL fighters SS-N-12 antiship cruise missile SA-N-3, SA-N-4 SAMs SUW-N-1 ASW rocket (Unit 4 extensively modified; new SAMs, radar)	Steam	37,000	1976	3
Kirov class guided-missile cruiser 	SS-N-14 ASW missile SA-N-6 SAM SS-N-19 antiship cruise missile 4 helicopters (Unit 2 extensively modified)	Combined nuclear and steam	28,000	1980	2
Slava class guided-missile cruiser 	SS-N-12 SA-N-4 SA-N-6 130-mm guns	Gas turbine	12,000	1982	1
Udaloy class guided-missile destroyer 	SS-N-14 SA-NX-9 2 ASW helicopters	Gas turbine	8,000	1981	4
Sovremennyy class guided-missile destroyer 	SA-N-7 SAM 130-mm guns SS-N-22 antiship missile 1 helicopter	Steam	7,300	1981	4
Krivak-III-class guided-missile frigate 	SA-N-4 ASW helicopter	Gas turbine	3,900	1984	1

* Major surface combatants of more than 3,000 metric tons displacement.

Figure 13
Soviet Submarines in Production

	Armament	Propulsion	Submerged Displacement (metric tons)	Year Operational	Units in Operation
Typhoon-class SSBN 	20 SS-N-20 SS-N-15/SS-N-16/ Torpedoes (22) Possible submarine SAM	Nuclear	27,000-29,000	1983	3
D-IV-class SSBN 	16 SS-NX-23 Torpedoes (16)	Nuclear	13,500	1985	1
O-class SSGN 	24 SS-N-19 SS-N-15/SS-N-16/ Torpedoes (16-18)	Nuclear	13,900	1981	2
Akula-class SSN 	Possible SS-NX-21 SS-N-15/SS-N-16/ Torpedoes (28)	Nuclear	8,250	1985	1
M-class SSN 	Possible SS-NX-21 SS-N-15/SS-N-16/ Torpedoes (32)	Nuclear	9,700	1985	1
S-class SSN 	Possible SS-NX-21 SS-N-15/SS-N-16/ Torpedoes (28)	Nuclear	8,200	1984	1
Y-class SSN 	Possible SS-NX-21 SS-N-15/SS-N-16/ Torpedoes (16)	Nuclear	10,000	1985	1
K-class SS 	Torpedoes (18) Possible submarine SAM	Diesel	3,000	1981	6

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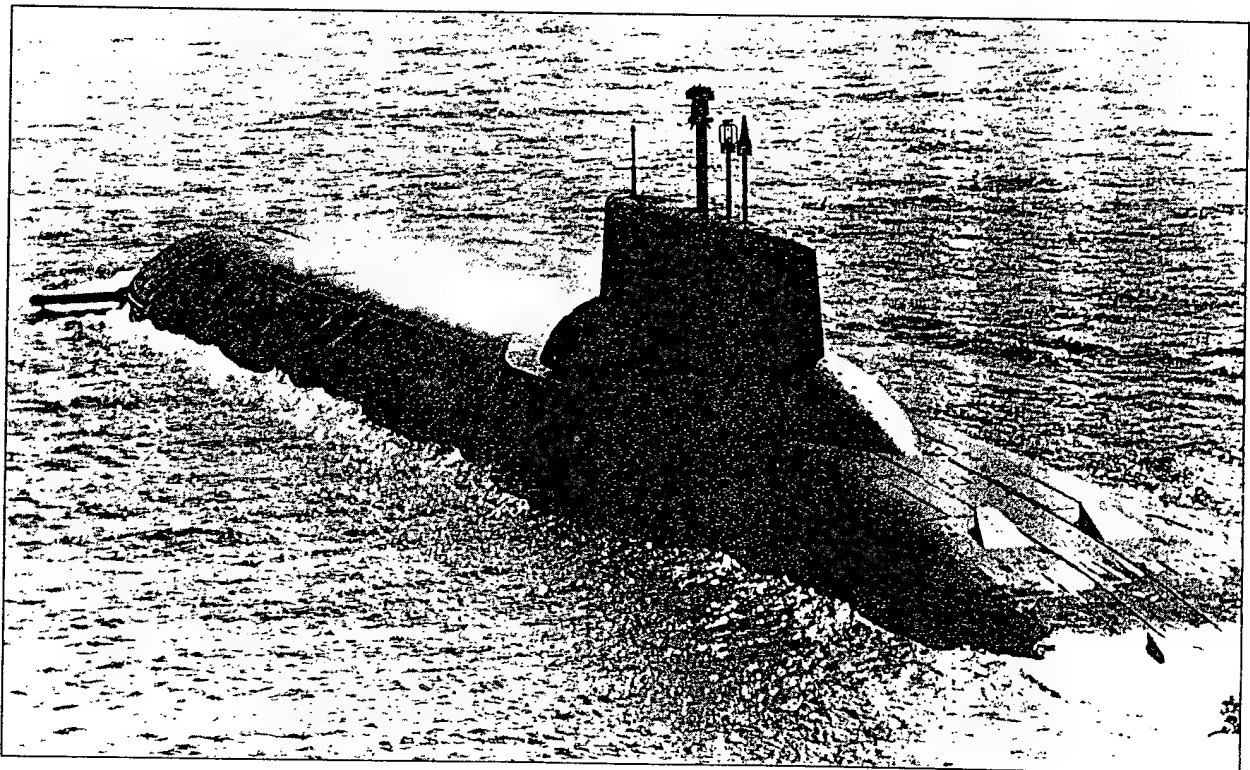
nuclear powered. We believe general purpose submarine construction will continue to receive the Navy's top priority in resources through the early 1990s.

44. *SSBNs*. Beginning in the mid-1960s and continuing through the late 1970s, the Soviets allocated considerable resources to their SSBN program. During this period, the construction rate of Y- and D-class SSBNs averaged about five per year and accounted for more than half of Soviet nuclear submarine construction. Although construction rates have tapered off and SSBN force levels have stabilized to accommodate the level agreed to in the SALT I Protocol of 62 modern units and 950 launch tubes, the SSBN force still receives significant emphasis, as evidenced by the construction of the D-IV and Typhoon classes.

45. The D-class series (the D-IV being the latest modification) is basically an extension of Y-class SSBN

technology. Fourteen D-IIIs and one D-IV have been built to date. Two more D-IVs are under construction. A follow-on to the D-III's SS-N-18 SLBM, designated SS-NX-23, began at-sea testing in late 1984. The SS-NX-23 is longer ranged and more accurate than its predecessor and probably is intended for the D-IVs and backfit into D-IIIs. System IOC could be achieved as early as 1986. Since the summer of 1981, D-class submarines have conducted regular patrols near and in the marginal polar ice zone and probably have surfaced through the ice to launch SS-N-8 SLBMs. The Typhoon is the USSR's first entirely new SSBN design since the Y-class was introduced in 1966 (see figure 14). It is significantly quieter than earlier SSBNs and incorporates ice-penetrating features in its design to facilitate surfaced launches from within the icepack. Typhoon may already have conducted under-ice operations. Three Typhoons have been built to date, and

Figure 14
Typhoon-Class SSBN Operating in the Barents Sea, 1984



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unit one has completed an operational patrol. Typhoon construction continues; but we now expect only six or seven units by 1990. The Typhoon carries 20 SS-N-20 SLBMs. The SS-N-20 is a three-stage, solid-propellant missile with [

](MIRVs) and improved accuracy over other Soviet SLBMs. A follow-on to the SS-N-20 has been in development since at least 1980. [

] A maneuverable reentry vehicle (MaRV) variant is probably under development. We believe that a new class SSBN is under development and that the first unit probably will be deployed by the early 1990s.

46. The Soviets continue, thus far, to adhere to the terms of the SALT I Interim Agreement. As new SSBNs begin sea trials, a Y-I-class SSBN is dismantled by removing the entire missile compartment. Twelve Y-Is have been dismantled to date. One unit has been modified by the addition of 12 inclined missile tubes and serves as the test bed for the SS-NX-24 long-range, land attack cruise missile. Another unit has rejoined the fleet as a nuclear-powered attack submarine (SSN), three are undergoing conversion, and others are being prepared for conversion. We believe these latter units will be reconfigured as attack submarines. For at least the near term, the Soviets probably will continue to dismantle Y-Is in compensation for newly constructed modern SSBNs. Even so, in 1995, more than half of the current 21 Y-I SSBNs should still be in service.

47. *Attack Submarines.* The Soviets are producing three new classes of SSNs—the S, the M, and the Akula (formerly V-199F)—all of which probably incorporate substantial advances in sound quieting and war-fighting capability. In addition, the V-III, an extensive modification of the earlier V-I/II design, became operational in 1979, and 20 units were produced ending in 1984. The V-III is significantly quieter than its forerunners and incorporates the best Soviet communications and hull-mounted acoustic ASW systems. At least some V-IIIs probably were equipped with a towed passive sonar array in 1982-83, further enhancing their passive ASW detection capabilities (see figure 15).

48. The first unit of the S-class SSN was built at Gor'kiy and became operational in 1984. Somewhat larger than the V-III, the S-class probably is faster, quieter, and possibly deeper diving than the V-III. There is evidence the S-class is probably built of titanium. It is fitted with a towed array sonar to

augment its hull-mounted sensors, has both 53- and 65-cm torpedo tubes, and is capable of carrying the SS-N-15 and SS-N-16 ASW weapons. It is a candidate for deploying the SS-NX-21 land attack cruise missile as well. We expect the S-class to be built at Gor'kiy at a rate of about one or two units per year beginning in 1986. Some 15 to 20 S-class SSNs could be available by the mid-1990s. A follow-on to the S-class, featuring incremental improvements, especially in sound quieting, is expected in the early 1990s.

49. The first M-class SSN was launched in 1983. In terms of displacement, it is about 50 percent larger than the V-III. Moreover, we estimate it embodies Soviet state-of-the-art technology in propulsion, titanium hull structure, sensors, command, control, and communications, and sound quieting. The M-class probably can deliver a large number of various weapons, including the SS-NX-21. Produced at a single building hall at Severodvinsk shipyard, we project that only four or five units are likely to be built before production terminates in the late 1980s.

50. In July 1984 the Soviets launched yet another SSN class, now designated Akula. This submarine, built at Komsomol'sk, is quite similar to the S-class built at Gor'kiy, but its long raked sail, double limber holes, and communications buoy hatch indicate it to be the lead unit of a new class. It is probably steel hulled. While we are uncertain about Akula's roles and capabilities, we expect its acoustic characteristics will be similar to those of the S-class. The first unit began sea trials in late November 1984. We believe about 20 units will be built by the mid-1990s.

51. Diesel submarines, constituting about 55 percent of the force, remain an important element of the Soviet general purpose submarine program. Production of the medium-range K-class continues at two shipyards both for the Soviet Navy and probably for export. We believe 20 units will be built by the early 1990s. T-class SS production terminated in 1982 with 19 units constructed. We have no evidence of a follow-on class. Although the percentage of Soviet diesel submarines is likely to drop to about 40 percent of the force by the early 1990s, we believe Moscow will remain committed to production of such units, and new SS classes will continue to appear.

52. *SSGNs.* Production of the O-class SSGN continues, and two are operational (see figure 16). Because of the size and complexity of the O-class, its production probably will not exceed one unit every two years. At that rate, only five or six will be available in the early 1990s, and the SSGN inventory would begin to decline

Akula-class SSN

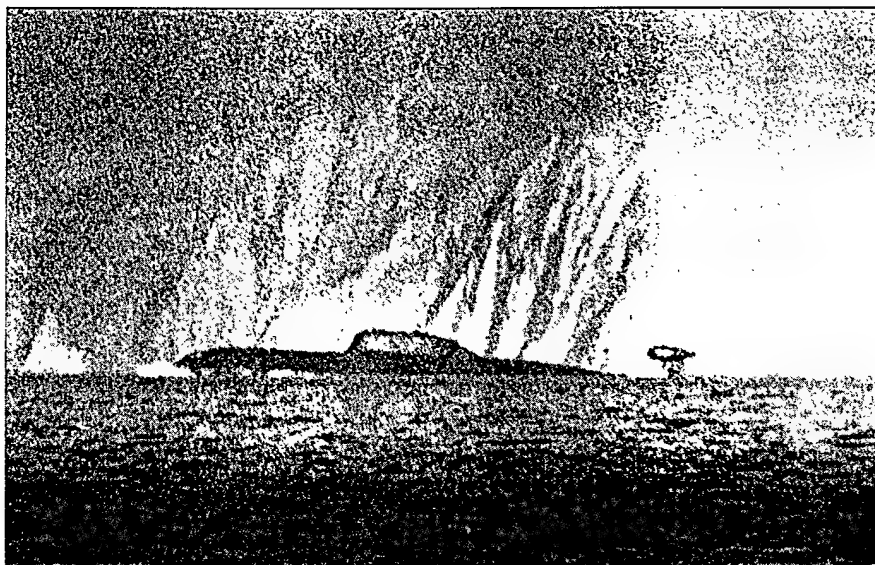
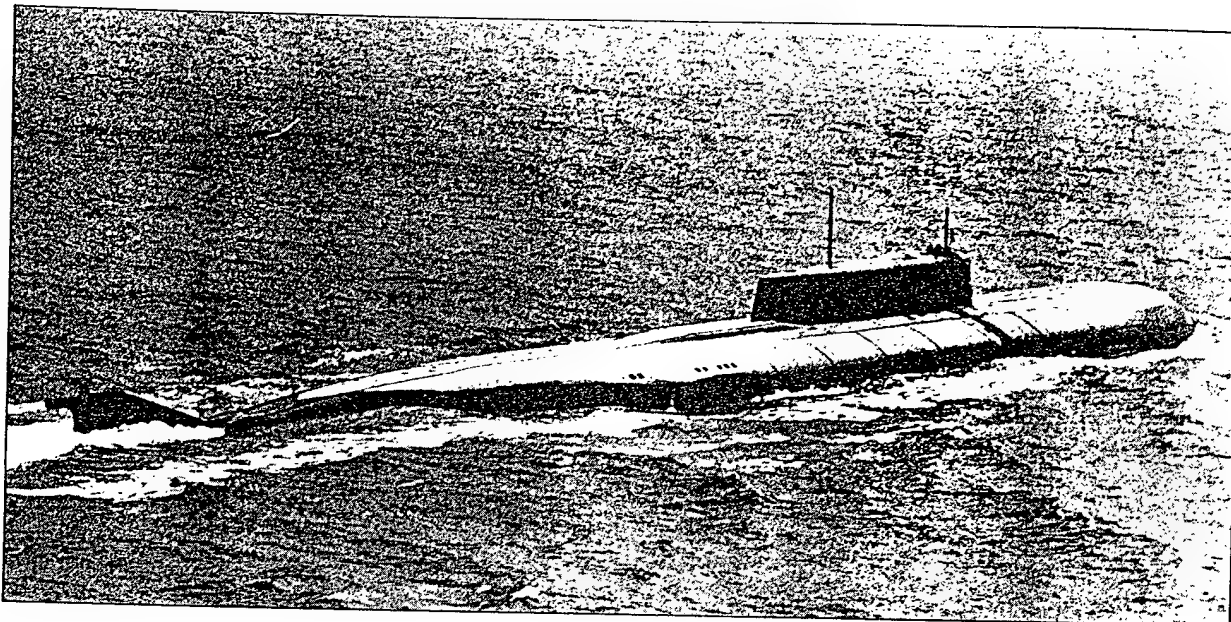


Figure 16
O-Class SSGN



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then as older E-IIs and J's are retired. To avoid a decrement in the overall SSGN force, the first unit of a new SSGN class displacing about 7,000 tons and armed with 10 to 12 antiship cruise missiles, probably a version of the SS-N-22, will probably appear within the next two years. About 10 could be built by 1995. We also project six units of an O-class follow-on by the turn of the century. Quieter than the O-class, these submarines will be armed with a long-range antiship cruise missile possibly incorporating some signature reduction technology. Yet another SSGN, designed to carry the SS-NX-24 SLCM, probably is being built and could be launched in 1985. Additionally, the retrofit of the SS-N-12 antiship cruise missile into some E-IIs will probably continue. We expect more than half the E-II force will be so modified by the end of the decade, and the modified units should remain in service well into the 1990s. [REDACTED]

53. We believe this robust general purpose submarine construction program is being driven primarily by Moscow's intention to close the technological gap between Soviet and Western submarines. Western

advances in submarine noise reduction and sensor improvement have made increasingly uncertain the capability of much of the current Soviet force to carry out its wartime missions. Hence, since the introduction of the V-III-class SSN in 1979, the Soviets have steadily reduced the technological inferiority of their newest submarines. Progress in Soviet submarine quieting, evidenced in the O- and S-classes, and sonar and signal-processing improvements [REDACTED]

half of the Soviet nuclear attack force will be composed of quiet submarines, however, and thus the US submarine force will still enjoy a significant overall acoustic advantage in submarine warfare into the mid-1990s. Other factors behind this Soviet submarine building program probably include: [REDACTED]

— A deficiency in the number of submarines required to carry out the wide range of missions

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assigned to the force. For example, although the Northern and Pacific Ocean Fleets probably would use about half of their available diesel-powered attack submarines to aid in SSBN defense, such units are less capable than SSNs which can operate in the under-ice environment increasingly used by Soviet SSBNs.

- Obsolescence. About half the current Soviet force is aging and increasingly plagued by maintenance problems.
- New mission requirements, represented by the SLCM-carrying SSNs and SSGNs we project.
- The US naval expansion program, particularly the proliferation of land attack cruise missile platforms.

Finally, because of the large numbers we project for these new Soviet nuclear attack submarines in the 1990s, they should give Moscow additional flexibility in the employment of its overall submarine force in critical strategic offensive and defensive wartime tasks.

54. *Naval Aviation.* The Soviets have embarked on a major program to upgrade their sea-based aircraft capability. The most visible evidence of this is the probably nuclear-powered aircraft carrier, designed to handle conventional takeoff and landing (CTOL) aircraft, being constructed at Nikolayev on the Black Sea (see figure 17). The carrier probably will be 300 to 315 meters long, displace 65,000 to 75,000 tons, and carry up to 60 aircraft, somewhat smaller than most US attack carriers. We believe the eventual aircraft com-

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plement will include airborne early warning, fighter, and attack (or possibly fighter-attack) aircraft. On-board ASW capability probably will be provided by helicopters. Sea trials for the carrier are projected in 1988. Initial operational capability could be achieved in 1990, but full operational capability with a fully worked up air group is unlikely before the mid-1990s. As many as five CTOL carriers could be constructed by the turn of the century.

55. Construction continues at Saki naval airfield in the Crimea, which we believe will be used in the development of an aircraft for the new carrier and to train the initial complement of pilots. To date, the Soviets have constructed catapults and associated steam lines, arresting gear, and supports for an aircraft barricade. Only a steam source appears required to complete the catapult system at Saki. Additionally, one fixed ski jump ramp has been erected and a second, possibly hydraulically powered, variable angle, ski jump is being built. These ramps may be associated with the development of an improved vertical/short takeoff and landing (V/STOL) aircraft to replace

Forger. A possible prototype [] has been seen in the Moscow area. We expect the Forger follow-on to have better range, endurance, payload, avionics, and flight characteristics than Forger. Candidate CTOL aircraft for the new aircraft carrier have yet to be positively identified. Since there are no indications of an entirely new aircraft in development, it is probable that a modified version of an existing aircraft will be used. []

56. Acquisition of land-based Backfire medium bombers continues, and the first improved performance C variants have entered SNA's inventory. The Backfire force is supplanting the Badger C/G as the primary airborne strike arm of the Soviet Navy as evidenced by increased levels of weapons delivery, []

missile loading, mining, and mobility training. We believe a follow-on aircraft will begin to supplant Backfire in the mid-1990s. That aircraft probably will be a new (as yet unseen) aircraft similar in size and range to Backfire. If a Backfire follow-on (Peripheral Attack Bomber) is not produced, a naval version of the AAVGK's Blackjack bomber could enter the SNA inventory in the mid-1990s.

57. Bear F Mod 3 aircraft production apparently resumed in mid-1984 after about a two-year hiatus due to Bear H (ALCM platform) production. This resumption will enable replacement of the Bear F Mod 1's and 2's in the Pacific Ocean Fleet. The Bear F Mod 3 is the Soviet Navy's most capable ASW aircraft and represents a substantial improvement over the Bear F Mod 1's and 2's. Bear F Mod 3 operations have included regular deployments to Cuba and occasional forays into the eastern Pacific. The Soviets apparently believe the Bear F Mod 3 can be effective in detecting, tracking, and localizing Western submarines, including SSBNs, when properly cued. [

58. The new Helix helicopter is entering the fleet in numbers and has operated from Kiev-class guided-missile helicopter carriers (CVHGs) and Udaloy guided-missile destroyers (DDGs). Helix A is an ASW helicopter equipped with dipping sonar, while Helix C is a search and rescue/utility version. Helix B, not yet operational, probably is an amphibious assault support helicopter.]

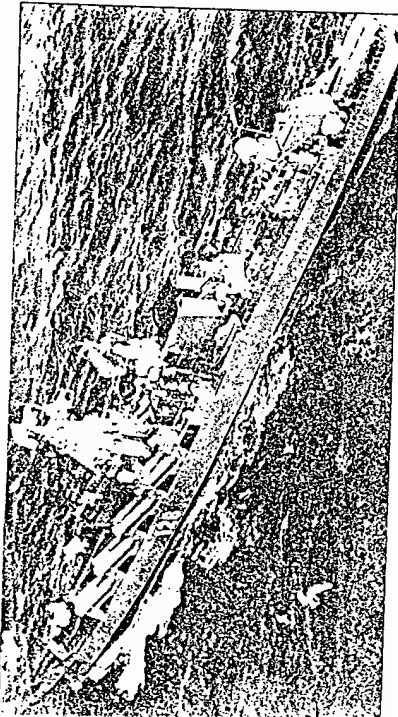
59. *Principal Surface Combatants.* Building programs for seven classes of major surface combatants are ongoing. In addition to the new carrier being built at Nikolayev, fitting out of the fourth and last Kiev-class CVHG continues, with sea trials expected in 1985. This unit will have improved early warning radar and close-in air defense systems. A multifaceted planar array radar has been installed which uses advanced signal-processing and data-handling techniques to detect and track multiple targets. The SA-NX-9 or "Udaloy SAM" system probably will be the sole SAM installed. We believe this system will have a much improved capability to engage low-flying targets such as cruise missiles. The second unit of the Kirov-class guided-missile cruiser has entered the order of battle. The SS-N-14 standoff ASW weapon system is absent from unit two, and the SA-NX-9 has augmented the SA-N-4 system. A third unit began

construction in 1983. We believe four units will be built by the early 1990s. The first unit of the Slava-class guided-missile cruiser is operational, two others continue to fit out slowly in the Black Sea, and a fourth may be under construction at Nikolayev. Unlike the Kiev and Kirov classes, Slava does not incorporate the Soviets' newest weapons and sensors except for the SA-N-6 system. These ships may be intended primarily for operations in the eastern Mediterranean and the Sea of Japan against Western high-value units. The Sovremennyy- and Udaloy-class guided-missile destroyer construction programs remain active. The 7,300-ton Sovremennyy is equipped with the SS-N-22 supersonic, sea-skimming cruise missile, a target-designating helicopter, and two twin-barreled 130-mm guns. Four of these antisurface warfare ships are operational and six others are under construction. The Udaloy class, slightly larger than Sovremennyy, is primarily an antisubmarine warfare ship. It is equipped with Kirov-type bow-mounted and variable-depth sonars, SS-N-14 standoff ASW weapons, and has the capability to embark two Helix ASW helicopters. Udaloy-class production is expected to reach 12 units before ending in the early 1990s. As noted, most of these major surface combatants carry antiship missiles with conventional and nuclear capabilities and ranges from 100 to 550 kilometers. This surface-to-surface missile arsenal provides a formidable standoff antisurface warfare strike capability for a surface force traditionally lacking effective air cover. Except for the 1960s design Grisha class, there are no frigates under construction for the Soviet Navy. Production of a class based on the standard Krivak hull, designated Krivak III, is under way at Kerch, but these ships will be KGB subordinated. The KGB Maritime Border Guard in the Pacific received the first of these units in late 1984. We are not sure why a ship as large as a Krivak is assigned to the KGB; however, historically, this organization has had responsibilities in coastal ASW, and the Krivaks could serve as command ships for such operations. Their size also allows them to participate in the protection of the Soviets' 200-nautical-mile expanded economic zone. Figure 19 shows five of the seven major surface combatants currently under construction.

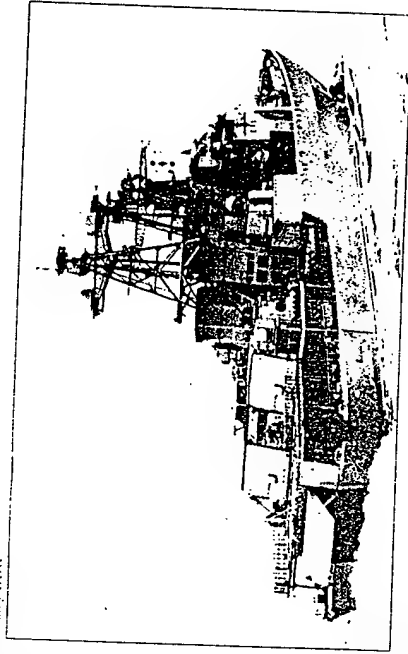
60. *Amphibious Forces.* Amphibious forces in the Soviet Navy have lower priority than the submarine, air, and surface combatant programs. No new large amphibious ships have been produced since the second unit of the Ivan Rogov-class LPD was completed in 1982. Construction of LSTs for the Soviet Navy has continued in Poland, and a new, large LST class may be planned. The Soviets continue to pursue an active

Figure 19
Major Soviet Surface Combatant Classes

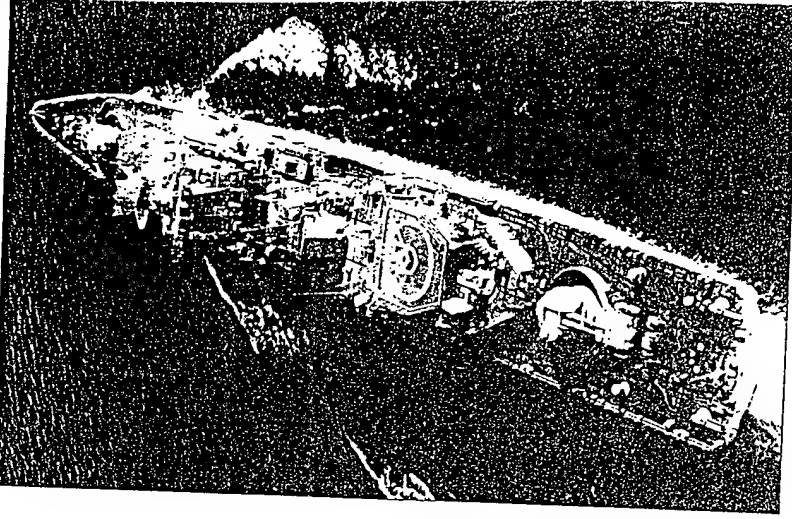
Box C6



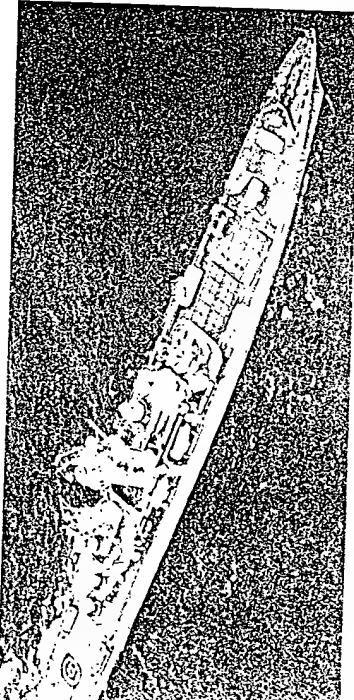
Box C6



Box C6



Box C6



Box C6



program for the development and production of air-cushion vehicles. At least 70 units are in service and construction of two distinct classes is continuing. In addition, the three Kasp-B wing-in-ground vehicles being developed in the Caspian Sea are probably naval subordinated. While such units could have a wide range of maritime applications because of their high speed and load capabilities [

Use in amphibious warfare is the most likely mission. The Soviet Naval Infantry (SNI) since 1979 has undergone a substantial reorganization and an equipment modernization program. All three SNI regiments in the Western Fleets have expanded to brigades, and combat support units have been added to the Pacific Ocean Fleet division. Manning has increased from 14,000 to about 16,000 troops. The introduction of artillery and antitank battalions as well as new equipment such as the T-72 tank and 82-mm automatic mortar has increased SNI's organic firepower. Currently, the Soviet Navy does not have sufficient lift capacity to accommodate all of the SNI. The Soviet merchant fleet is, however, the most militarily adaptable in the world. Combining amphibious ships with merchant roll-on/roll-off ships (Ro/Ros) and barge carriers (as has been seen in exercises), the entire SNI and more than three motorized rifle divisions could theoretically be lifted. Some ground force units routinely train for amphibious assault landings or, more commonly, as followup forces.

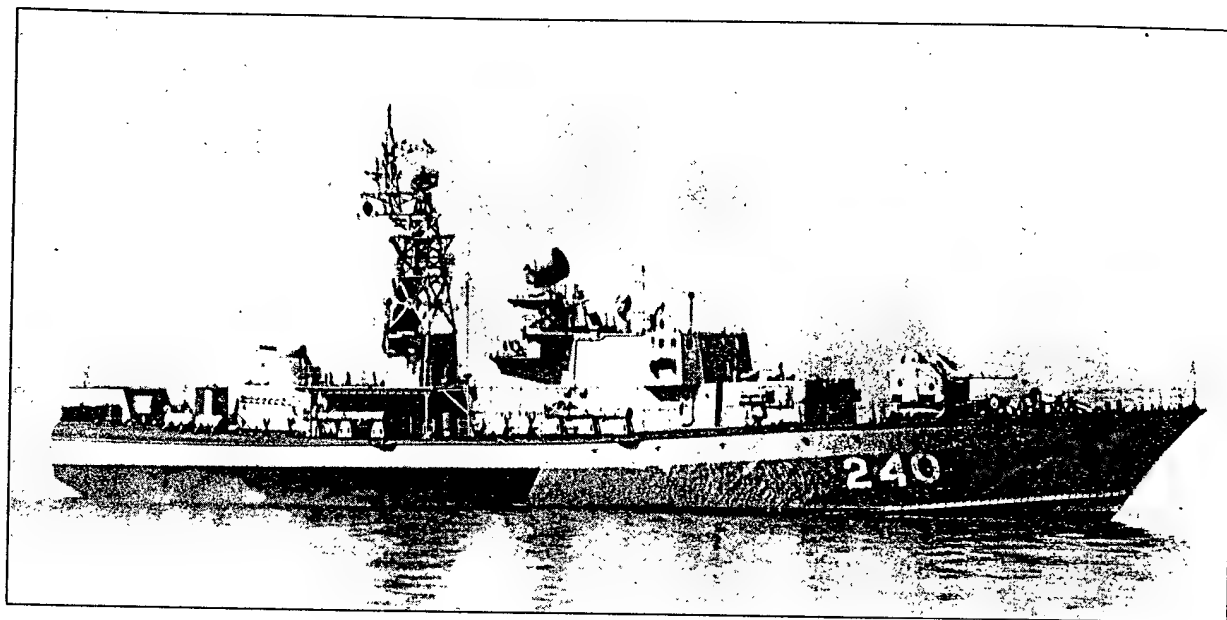
61. *Small Combatants and Mine Warfare Units.* The Soviets continue to regard small surface combatants and mine warfare units as important elements of their Navy. These units are particularly useful in the confined waters of the Baltic and Black Seas, but they are also assigned important roles in the echeloned defense of Soviet territory and SSBN operating areas in the Northern and Pacific Ocean Fleet areas. Small surface combatants now in series production include the Nanuchka and Tarantul guided-missile patrol combatants, equipped primarily for antiship operations, and the Pauk (see figure 20) and Muravey patrol boats, whose major role is ASW. Mine warfare units in production include the Sonya-class minesweeper and the Natya (now built for export only). The Soviets also are continuing to develop a helicopter mine countermeasures capability. A large number of these naval units—in addition to most principal surface combatants and all combat submarines—are also capable of minelaying.

62. *Replenishment Ships.* Construction of logistic support ships is sporadic and also has a lower priority

than that of surface combatants and submarines. The most important unit built in recent years is the Berezina, a 37,000-ton multipurpose replenishment ship completed in 1977. No further units of this class have been built, nor are any other underway replenishment ships known to be under construction. The number of naval logistic support ships capable of transferring strategic and tactical missiles to combatants remains small. The generally low priority accorded replenishment ships probably is linked with several aspects of Soviet naval practice and doctrine, including a heavy reliance on merchant tankers to support naval operations, the intention to operate many naval units relatively close to Soviet territory, and a belief that the war is unlikely to be so prolonged that replenishment at sea would affect its outcome. The Soviets also prefer to improve the sustainability of their naval combatants by increased capacities in the units themselves rather than by emphasizing the construction of auxiliary vessels. Thus, new-construction surface combatants such as the Kirov and Slava include features such as greater endurance (including nuclear power on the Kirov class) and larger missile loads.

63. *Other Maritime Supporting Forces (Merchant, Fishing, Intelligence, Research, and KGB).* The Soviet Union operates well-developed maritime supporting forces integral to Moscow's concept of seapower. These forces have an important role in furthering Soviet naval objectives through intelligence collection, logistic support to naval forces, and participation in naval exercises and operations. Additionally, their daily presence on all the world's oceans underscores Moscow's claim as a major maritime power, and their generally unrestricted access to world ports provides another means for spreading Soviet influence. The Soviet merchant fleet, with over 1,700 vessels, is among the largest commercial fleets in the world. In peacetime, the merchant fleet provides logistic support to deployed naval forces. Replenishment (primarily fuel) of Soviet naval units deployed out of area is commonplace, and the use of merchant vessels in this role permits Moscow to use littoral ports as contingency logistic bases. Most tankers and cargo ships are not suitable for operations in contested waters during combat because they are not fitted for underway replenishment. Nevertheless, Soviet merchant ships generally incorporate other design features that enhance their military utility. Exercises indicate the Soviet merchant fleet has an important wartime role as floating, dispersed logistic bases (including in the marginal ice zone of the Arctic) and Ro/Ro ships in

Figure 20
Pauk Patrol Combatant



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support of amphibious operations. Recent evidence suggests the Soviets have experimented with using Ro/Ro ships as VTOL aircraft carriers, and we believe they probably will develop the capability to modify, as required, at least some Ro/Ros for VTOL operations. The Soviet fishing fleet is by far the world's largest with about 3,500 oceangoing ships registering more than 7.5 million tons. These vessels operate worldwide and provide ancillary support to the Navy—primarily intelligence collection. The military adaptability of the fishing fleet, while less than that of the merchant fleet, is diverse and includes replenishment and mine warfare. The Soviet Navy's intelligence collection ships (AGIs), some 60 in number, monitor and report primarily on Western naval forces' locations, tactics, characteristics, and capabilities. AGIs routinely patrol in the vicinity of Western SSBN bases to provide information on movements and to collect signals and acoustic intelligence. In 1980, the initial Balzam-class unit, the first AGI built from the keel up as an intelligence collector, was completed. The second is now operational and a third will be in 1985. The Soviet research fleet, larger than the rest of the world's

combined, includes over 70 civilian and 100 naval oceangoing ships, which conduct research of actual or potential military value. Information so gathered contributes to the Soviets' increasingly precise knowledge of the oceans and helps enable the Navy make optimum use of its weapons, sensors, and platforms as well as facilitating naval planning. Four new classes of research ship have been introduced into the civilian fleet since 1980, and eight more ships are under construction or on order. The KGB Maritime Border Guard maintains a coastal defense force of about 8,000 men and over 250 ships, primarily patrol craft such as the Grisha-III and Pauk classes. In wartime the KGB fleet would be subordinate to the Navy and continue its role of patrolling coastal waters; it can function in both the ASW and antiship roles, particularly in the Baltic and Black Seas. The Soviet commitment to maritime supporting forces is not expected to diminish during the period of this Estimate. [REDACTED]

J. Trends in Naval Exercises

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67. We believe Soviet naval exercises will continue to be conducted within the framework of theater requirements to enhance and refine combined-arms/joint operations effectiveness. The maritime emphasis in these exercises will center on survival of strategic forces and command, control, and communications systems through dispersal, deployment, and layered defense; destruction of hostile forces entering sea denial areas; and support of ground force operations. The continued Western threat to Soviet SSBNs will ensure substantial emphasis on ASW, but the proliferation of US land attack cruise missiles will cause modifications in "defense of the homeland" doctrine. Platforms carrying these missiles probably will be engaged outside their maximum launch ranges. Future Soviet naval exercises, therefore, probably will be conducted at increasingly greater distances from home waters, especially as new platforms such as the CTOL carrier; Kirov-class CGNs; O-class SSGNs; and M-, S-, and Akula-class SSNs are fully integrated into the fleet.

K. Command, Control, and Communications

68. The Soviet Navy depends heavily upon a smoothly functioning, reliable command, control, and communications system for its effectiveness in combat. The extent to which the Navy will achieve its command, control, and communications goals (and, hence, its combat objectives) will be determined by the operational skill of Soviet naval commanders as much as by any combination of technical capabilities and organizational details. The Soviet style of command and control is dramatically different from that of the United States. Russian heritage, Marxist ideology, and Soviet wartime experience have convinced Moscow's military planners that they must apply a serious scientific approach to wartime command, control, and communications. While the US planner is inclined to doubt that theory will ever solve a practical military problem, his Soviet counterpart is taught that there is nothing more practical than good theory. A recent series of articles on the theory of the navy, in the

Soviet journal *Morskoy Sbornik*, is a good example of how these convictions affect the professional issues which any world navy must address. This discussion included specific treatment of a related theory of command, control, and communications, itself a product of a 20-year national effort to improve the effectiveness of Soviet combat forces by refining their theoretical understanding of command, control, and communications.

69. Soviet command, control, and communications theorists currently enjoy a decade lead over the United States in applying their work to practical problems. Specifically, they appear to have developed unique and relatively sophisticated techniques for measuring the contribution of command, control, and communications systems in practical military terms. These techniques significantly enhance the Soviet Navy's capability to:

- Design more rational command, control, and communications systems that can function smoothly in combined-arms operations.
- Use these systems more effectively in combat.
- Plan better countermeasures to US military systems.

The results are a Soviet naval command, control, and communications system that, with regard to strategic forces, includes highly centralized VGK control of the use of strategic weapon systems (that is, targeting and launching) and decentralized fleet control of other aspects of strategic force operations (for example, allocation of platforms to specific operating areas). Operations of Soviet general purpose naval forces are usually under decentralized control by fleet authorities.

70. The decision latitude afforded most Soviet general purpose force commanders, combined with the Soviet penchant for a scientific approach, requires them to use mathematical models of combat in the preparation and execution of wartime plans. This is profoundly different from the US approach to wartime decisionmaking, which relies heavily upon the personal attributes of the commander. The efficacy of the Soviet Navy's approach is limited by a number of technical factors including the availability of small, high-speed, large-memory computers and sophisticated computer communications networks.

71. Potentially, the use of computer-aided decision support systems offers significant improvements in the quality and timeliness of naval command and control. Because these systems are intended to ensure that the commander considers all relevant factors in reaching an acceptable decision within the context of the overall plan, the net effect could be to improve the general quality of combat decisions. There also is reason to expect that these systems will improve the timeliness with which Soviet naval commanders can plan combat operations and respond to changes during the implementation of those plans. Although the Soviet approach apparently requires the commander to employ a computer in his combat planning and decision-making, we cannot predict his behavior using our limited knowledge of his models.

72. Besides decision quality and timeliness, the designers of Soviet naval command, control, and communications systems place heavy emphasis upon achieving their greatest possible "combat stability"—having high confidence that forces can be controlled regardless of enemy actions. They expect the United States to attempt to disrupt their control from the outset of hostilities through concerted attacks, jamming, and deception efforts. They believe continuation of effective command, control, and communications, especially relative to their SSBN force, could be a decisive factor in a general war. Soviet designers divide combat stability into three broad categories: survivability, jam resistance, and reliability. Trends in the Soviet Navy's command, control, and communications systems reflect years of integrated planning to achieve gradual improvements in combat stability. The current structure of this system includes features such as:

- The continued construction of bunkered command posts at echelons ranging from the Main Naval Staff to flotillas.
- Installation of hardened antennas at some of these sites and construction of new very-low-frequency (VLF) communications facilities.
- Expansion of the single extremely-low-frequency (ELF) communications facility.
- The availability of large numbers of high-frequency (HF) communications vans at the national and fleet levels to augment communications and support field-deployed command posts.

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- Equipping a variety of naval ships with communications capabilities that provide for flexible seaborne command and control.

— The modification of submarines for communications relay. Three former G-class ballistic missile submarines (SSBs) [] have been modified for such use. Further, we believe the Soviets are interested in developing submarine command posts.

- The development of airborne naval command posts. The first such platform, a modified IL-22 Coot, was identified in 1978.



- Development of a modified TU-142 Bear as a VLF communications relay platform for submarine support.
- Development and use of new and sophisticated communications that offer increased efficiency, reliability, and security.
- Improvement in the survivability and capacity of existing HF installations.
- Increased use of automation to improve the efficiency of command and control.

L. Soviet Ocean Surveillance

73. Soviet ocean surveillance is designed to provide information primarily on the location, identity, and movements of foreign naval surface forces, especially those posing a threat to the Soviet homeland or forces. Its most important elements are land-based SIGINT stations, space-based ELINT and radar satellites, AGIs, and reconnaissance aircraft. Ships of the merchant and fishing fleets also can be tasked to conduct surveillance. Recent improvements include:

- Installation of land-based SIGINT stations in Vietnam, South Yemen, and Madagascar.
- Construction of the third and probably last unit of the Soviet Navy's largest and most capable AGI class, the Balzam. Two units of this class are in service.

- An increase in the number of naval units capable of receiving targeting data directly from satellites.
- The use of manned spacecraft for ocean reconnaissance.
- Continued access to and expanding use of foreign facilities—in Cuba, Angola, Ethiopia, South Yemen, Vietnam, Libya, and Syria—for Soviet naval air reconnaissance operations.

Such improvements have reinforced the Soviets' major ocean surveillance strength—the ability to detect and identify surface ships, especially aircraft carriers, in the maritime approaches to the Soviet Union. Detection probability against surface ships can still be reduced by Western cover and deception techniques such as emission control (EMCON) against SIGINT collection. Radar satellites are also limited by weather and by the difficulty of identifying contacts. []

[] a near-real-time imaging satellite system, which could make a significant contribution to Moscow's ocean surveillance capabilities by monitoring port areas to provide real-time intelligence on the arrival and departure of Western naval forces. This new photoreconnaissance system probably will become operational in the late 1980s. []

[] maritime surveillance systems [] It is doubtful that such systems could improve their satellite surveillance capability much before the early 1990s. In any event, the Soviets' major surveillance weakness will remain their lack of any significant capability to detect deployed submarines, especially in open-ocean areas such as the central Atlantic and Pacific.

M. Radioelectronic Combat

74. The operations of Soviet naval forces and the design of their electronic equipment are deeply influenced by the Soviet concept of radioelectronic combat (REC). This concept emphasizes the importance of both denying the enemy the use of his electronic systems and of protecting Soviet systems from disruption. The REC concept applies equally to sensors and to command, control, and communications systems. This concept has broader application than the Western notion of electronic warfare (EW) and includes widespread, integrated use of:

- Attacks on enemy electronic emitters.
- Emission control.
- Surprise.

- Multisensor integration.
- Redundancy of command, control, and communications.
- Active electronic countermeasures (jamming).
- Passive electronic countermeasures (chaff).
- Deception, to include decoys.

The prime focus of this concept is to ensure that Soviet forces can operate more effectively than their opponents in a common EW environment. Ideally, this would be accomplished by ensuring the reliability of Soviet command, control, and communications systems exposed to hostile EW through jam proofing and redundancy of the Soviets' own equipment, together with offensive EW and covert tactics to degrade enemy electronic systems. Although the Soviets have encountered problems with both REC equipment and training, they regard REC as a fundamental principle of modern, electronically dependent warfare and vital to the success of naval operations.

II. FACTORS BEARING ON THE FUTURE OF THE SOVIET NAVY

A. Political and Economic Changes

75. As Soviet leaders formulate their naval plans for the period of the late 1980s and 1990s, they face major political and economic uncertainties. They view the fluid international situation as requiring a strong naval posture, both to protect established Soviet interests and to exploit situations in which the use of naval forces can increase Soviet influence. Soviet perceptions of Western and Chinese naval improvements and of opportunities for the use of naval forces in the Third World are likely to be among the arguments for continued qualitative improvement in Soviet maritime power. On the other hand, problems in the Soviet economy probably will increase the opportunity costs associated with defense. To maintain even a modest rate of economic growth, the Soviets must allocate more resources to capital investment and improve labor productivity. The competing demands for economic resources could be reflected in domestic political tension, particularly during a period of leadership transition.

76. *International Environment.* The Soviets view the international arena as a shifting combination of threats and opportunities likely to last indefinitely. They will continue to be concerned about the prospect that the United States will augment its defense efforts,

including major improvements in both strategic and general purpose naval forces. They probably do not anticipate any substantial improvement in relations with China and believe that instability is likely to persist in border areas such as Iran and Poland. They probably will continue to view the Third World as fertile ground for the expansion of Soviet influence and will align themselves selectively with states and insurgent movements in that area. On the whole, the Soviets' expectations regarding international developments probably will support their traditional belief in the value of military power as a cornerstone of foreign policy. Such expectations probably will favor the continued development of Soviet naval power, for both its nuclear and conventional wartime value and for its peacetime role in promoting the image of the Soviet Union as a global power and projecting power and influence in distant areas.

77. *Economic Environment.* Soviet leaders in the late 1980s and 1990s will probably be operating in an environment characterized by increasing economic resource constraints. Poor agricultural performance, a slower increase in labor productivity, a low rate of GNP growth, labor shortages, and shortfalls in energy production will require tougher choices among defense, investment, and consumption. We project about a 2-percent annual average growth in GNP through 1990. We believe defense spending will grow at about the same rate over the period, and the defense burden will remain at about 14 percent of GNP. The regime can, however, determine to an important degree how GNP is distributed. The defense share, for instance, could be varied from 12 to 18 percent, albeit with serious implications for economic growth in the 1990s. We believe the Soviets will seek to continue the policy of the past 20 years of balanced and large-scale force development. Even so, any competition among the services for resource allocations probably will increase, and the flow of at least some new weapons into the stock of Soviet military equipment probably will not be as rapid as in previous decades. An accelerated high-technology arms race with the United States, such as in space-based strategic defensive systems, could have severe implications for procurement of traditional military equipment and for long-term Soviet economic growth.

78. The Soviet Navy's case for justifying its share of resource allocation is likely to include arguments based primarily on its evolving role in a NATO-Warsaw Pact war—the need to counter a growing Western naval threat to Pact territory and forces and to improve the Soviet Navy's capability to strike the

United States and its allies. Naval programs will also be supported in terms of their contribution to the USSR's capability to defend and expand Soviet influence in the Third World during peacetime and limited war situations, but any programs that cannot be solidly defended as essential to the NATO-Pact scenario are likely to be more susceptible to pruning.

79. *Domestic Political Environment.* It is unlikely that Konstantin Chernenko will be in office beyond this decade. His departure might result in a struggle for power that could be reflected in defense policies. It is not possible to predict the nature and timing of changes in military policy that could result from changes in national leadership, particularly because Chernenko's immediate successor could well be from a new generation of leaders. Information is sparse concerning the attitude toward defense of the younger, leading contenders in the succession. Insofar as such information exists, it suggests they would continue to place a strong emphasis on military spending. We have no specific information on their attitude concerning naval issues. During any succession period, variations in policy could occur. It would, however, be difficult to change basic priorities until a new leader could consolidate power. During the jockeying for power, the defense effort probably would not be significantly redirected. Few aspirants for leadership would risk antagonizing the military or placing themselves in a position to be accused of selling defense short. Once power is consolidated, however, severe economic pressures could contribute to sharp changes in the direction of the Soviet defense effort such as those that took place under Khrushchev.

80. During the same period of transition in the Soviet political hierarchy there will also be changes in the leadership of the Soviet Navy. Fleet Admiral Chernavin, Chief of the Main Naval Staff, seems most likely to succeed Admiral Gorshkov. Whoever gains the top post is unlikely to acquire immediately the high degree of authority that stems from Gorshkov's continuity as commander of the Soviet Navy since 1956. The views of a new leader, however, are likely to have been affected by a different operational background. Although any such officer probably will have had experience as a fleet commander and will thereby have become familiar with all types of naval platforms and operations, it is possible that he will favor some shifts in emphasis in Soviet naval programs and policies. It is unlikely, however, that the personalities or individual backgrounds of a new Soviet naval leadership would cause major near-term changes in

the strategy and programs underlying the Navy's role in Soviet military strategy.

B. Key Issues Facing Soviet Naval Planners (1985-2000)

81. *Protection and Use of the SSBN Force.* The ability to deploy and protect the SSBN force in preparation for and participation in strategic and theater strike operations will continue to be the single most important task of the Soviet Navy throughout the period of this Estimate. Although sea-launched cruise missiles will expand the number of potential naval strategic platforms, the bulk of the Soviet Navy's strategic capabilities will remain in the SSBN force. We expect this force to be further modernized and upgraded through the continued production of Typhoon- and D-IV-class units and the introduction of a new SSBN by the early 1990s. By the mid-1990s, Typhoon- and D-class SSBNs will have largely replaced the Y-class force, resulting in:

- A substantial increase in the number of sea-based strategic warheads because, for example, the Y-class SSBN carries only 16 warheads while one Typhoon carries 20 SS-N-20 missiles, which could have [] late 1980s.
- A less vulnerable SSBN force because almost all units could strike targets in the continental United States from within the Arctic icecap and/or from home waters and some units—all D-IVs (see figure 21) and Typhoons—will be quieter.
- A significant increase in strike capability with deployment of the SS-NX-23, and later the SS-NX-23 and SS-N-20 follow-on SLBMs. A small number of SLBMs could have a hard-target capability.

82. The size of the SSBN force in the 1990s could be affected by the status of East-West arms limitation agreements and developments in strategic offensive and defensive technology. If the SALT I limit of 950 modern submarine launch tubes remains in effect, the number of SSBNs would decline somewhat in the 1990s because Y-class units would have to be retired on a more than one-for-one basis to compensate for the greater number of tubes carried by the Typhoon SSBNs. In the absence of arms limitation restrictions, we believe the Soviets would increase the size of the SSBN force along with increases in the rest of their strategic arsenal. Whether or not the Soviets continue to abide by arms control restrictions, evidence on their

strategic force programs suggests they will not significantly alter the proportion of the overall strategic arsenal assigned to SSBNs in the 1990s. It is possible the Soviets could put greater reliance on SSBNs, however if:

- Their concern for the survivability of silo-based ICBMs, because of improved capabilities in programmed US forces, causes them to rely in the 1990s more on mobile forces—mobile ICBMs and SLBMs—than we anticipate.
- They achieve a better hard-target kill capability for MIRVed SLBMs than we anticipate, and thus depend more on SLBMs for targeting ICBM silos.

83. On the other hand, the Soviets would probably reduce the number of SLBM launchers if arms control negotiations resulted in a treaty requiring substantial cuts in the overall strategic arsenal. While we cannot predict whether the Soviets would reduce their SLBM force more than their ICBM force, SLBM reductions could be more severe if:

- The Soviets perceive that US ASW capabilities are so good that Soviet efforts to protect their SSBNs cannot keep up with US advances, and their SSBN force would thus become increasingly vulnerable.
- The Soviets continue to rely on ICBMs alone for hard-target capabilities, and thus reduce the ICBM force proportionally less than other force elements.
- The Soviets conclude that they can provide adequate enough strategic force survivability through their mobile ICBM deployments—possibly augmented with ABM protection—to reduce their dependence on SSBNs for survivability.

84. We believe that the Soviets will continue to regard their SSBN force as vulnerable to enemy ASW forces through the 1990s. In this time frame, the SSBN force will consist primarily of older D- and Y-class

units—in the 1990s, Y- and D-class units will compose over three-fourths of the force; in 2000, D-class units will still constitute well over half of the force. The perceived requirement to protect and support these SSBNs is unlikely to change. Typhoon and follow-on SSBNs will be quieter than Y's and D's and thus less vulnerable to acoustic detection. Nevertheless, it is unlikely that the Soviets will regard them as capable of ensuring their own survivability. The Soviets probably foresee no slackening in Western interest in ASW and expect that the positive effects of their quieting programs will be at least partially negated by improvements in Western ASW capabilities. Moreover, the Soviets' concept of SSBN protection is based on their apparent judgment that all submarines are inherently vulnerable to ASW prosecution, particularly as they exit and enter port, if they are not protected by friendly forces. The Soviets, therefore, do not regard SSBN vulnerability as a short-term problem that will disappear as new, quieter classes are introduced. The requirement to protect and support SSBNs will thus remain an integral part of the strategic strike mission and the most important initial wartime task of a large portion of Northern and Pacific Ocean Fleet general purpose forces through the remainder of the century.

85. We expect that Typhoon-, D-, and the projected new class SSBNs would be deployed in wartime primarily in "bastions" close to Soviet territory or under ice in the Arctic. Other measures to decrease the vulnerability of Soviet SSBNs could include:

- Further improvement to the ELF communications system for more reliable communications with SSBNs at patrol depth or under ice.
- Sheltering of some SSBNs in tunnels. [tunnel complexes under construction at Northern and Pacific Ocean Fleet SSBN bases which could provide concealment and some protection from nuclear weapons effects for a limited number of SSBNs, although protected units could be blocked in the tunnels by accurate missile strikes.
- Wider deployment of self-defense surface-to-air missile systems and decoys capable of being launched from submerged submarines.
- Moderate success in broad area search. [spaceborne radar [By the mid-1990s such a system could assist in protecting SSBN bastions

against encroaching US SSNs operating at shallow depths. Extensive success in this or other ASW programs would have more far-reaching implications, which are covered later in this Estimate (see "Alternate Courses of Development—An ASW Breakthrough").

- Possible installation of towed passive acoustic sonars to enhance ASW self-protection on the newest SSBNs.

86. Although such a move is unlikely, the Soviets might choose to deploy a few Typhoons to open-ocean areas in southern latitudes. The Soviets might use such open-ocean deployments to complicate the US defensive problem by requiring ASW forces to conduct open-ocean search in vast areas where SOSUS coverage is limited. This could increase the survivability of SSBNs in bastions by dispersing enemy ASW forces. Notwithstanding this potential benefit, the disadvantages of deploying SSBNs to distant areas would make this an unlikely option for wartime deployment. In particular, the transit through potentially enemy-controlled waters argues strongly against Typhoon deployments to southern latitudes.

87. We do not believe that likely changes in Soviet SLBM capabilities or in Soviet perceptions of NATO's ASW capability will lead to significant changes in the way Soviet SLBMs would be employed in wartime. A substantial number of SLBMs probably would still be withheld from the initial strategic nuclear exchange for subsequent strikes and as a residual force. One consequence of such a withholding policy is a need to sustain SSBN protection operations during the nuclear as well as the conventional phase of hostilities. The greater endurance features evident in the Soviets' new general purpose forces will be useful in this task.

88. The Soviets will probably continue to allocate SLBMs for initial strike operations against soft targets in the United States. SS-N-8 and SS-N-18 SLBMs launched from D-class units and SS-N-20 SLBMs from Typhoons would assume more of the Soviet Navy's initial strike role in the near term as Y-class SSBNs are retired, converted, or dedicated to theater roles. The Navy's ability to participate in counterforce strikes will be enhanced considerably if the accuracy of SLBMs is improved to the point where they would be effective against hardened targets such as ICBM silos. All agencies agree that the Soviets place a high priority on achieving improved accuracy for the SLBMs planned for testing in the middle and late 1980s and that this could not be achieved by improvements in

current guidance systems. The technologies for achieving this include both radio update and MaRVs that use terminal guidance. The Soviets will probably adopt one or possibly both of these concepts, but there are different interpretations of the available data. One view⁴ holds that, by the late 1980s, the Soviets will have the capability to deploy warheads for the SS-N-20 follow-on which, using an external update to its guidance system, will achieve an accuracy of about 200 meters. Additionally, in the early 1990s, they could begin deployment of a MaRV system with a 50- to 100-meter CEP. Another view⁵ holds that the Soviets are considering the development and deployment of an accuracy MaRV for future SLBM systems. The MaRV, if fielded, however, would not be available for deployment before at least the early 1990s. Furthermore, the first-generation Soviet MaRV probably would not achieve the full potential accuracy of 50 to 100 meters. All agencies believe that, despite the increased utility for initial nuclear strikes that a hard-target capability could provide, many such SLBMs, if deployed, would probably still be withheld from the initial exchanges for use in subsequent strikes or as a residual force.

89. Soviet Naval Land Attack Cruise Missiles. The Soviet Navy is developing two sea-launched land attack cruise missiles. One, designated SS-NX-21, is similar to the US Tomahawk, and the other, SS-NX-24, is a larger, supersonic missile. If deployed with terrain-matching guidance, both systems could have a hard-target capability.

90. The SS-NX-21 is expected to become operational in 1985. It is compatible with standard Soviet 53-cm torpedo tubes, although some minor modification to the tube is necessary. We believe the SS-NX-21 is now capable of carrying only a nuclear warhead and has some form of position update navigation system, perhaps a terrain matching system. With this system, accuracies of 100 to 150 meters are possible. It is assessed to have a maximum range of about 3,000 kilometers at subsonic speeds.

91. We believe that the primary application of the SS-NX-21 will be as a submarine-launched weapon for nuclear strikes against theater targets, but it probably will also be used during initial strikes against targets in the continental United States. We believe the initial deployment will be on some V-III submarines. A

specially modified V-III has been used for the at-sea tests of the SS-NX-21. All V-IIIs are equipped with suitably advanced communications and navigation systems but would need additional fire control equipment to support the deployment of the SS-NX-21. There are currently 20 V-IIIs in the Soviet operational inventory. It is possible that a few could begin operational deployment with the missile in 1985. If the Soviets do not deploy the SS-NX-21 on V-IIIs, its deployment will be extremely limited for several years because the other candidate SSNs will be available only in small numbers. Four new classes of SSNs are candidates to carry the SS-NX-21—the M, S, Akula, and a reconfigured Y-SSBN, designated the Y-class.

92. The Soviets probably have at least two options for allocating SS-NX-21s to their candidate SSNs. One way would be to deploy some SLCMs on many such units. This would not only add considerable flexibility to the submarine force in carrying out nuclear missions but also complicate Western defensive problems by converting an increasing number of Soviet submarines into land attack platforms. One drawback to this mode of deployment would be a corresponding reduction in the number of ASW and ASUW weapons that could be carried by SLCM-armed submarines, lessening capabilities in these mission areas. The Soviets, on the other hand, could deploy large numbers of SS-NX-21s on a few modern SSNs dedicated to the land attack mission. This would ease command and control of these strategic weapons and allow the bulk of the modern SSNs to remain dedicated to ASW and ASUW. A major drawback to this option would be the comparatively reduced strategic strike potential of the SLCM force. Further, it would create particularly high-value strategic weapons platforms, which, like SSBNs, would be considered vulnerable to Western ASW efforts and—unlike SSNs carrying only a few SLCMs—would probably require protection by other forces. We do not know which option the Soviets might choose in allocating SS-NX-21s to their modern SSNs. Although the missile could also be installed in older classes of attack submarines, we believe it less likely because these submarines are required for important ASW and ASUW tasks, and some of them—particularly the diesel-electric units—may not have sufficient command, control, and communications capabilities or space for necessary additional fire control and navigation systems. Finally, it is possible that patrolling SSBNs might also carry the SS-NX-21 to increase their strategic strike potential. This would require, however, a reduction in the number of their torpedoes.

⁴ The holders of this view are the Director, Defense Intelligence Agency, and the Director of Naval Intelligence, Department of the Navy.

⁵ The holder of this view is the Deputy Director for Intelligence, Central Intelligence Agency.

93. We do not know whether the Soviets are developing a version of the SS-NX-21 with a nonnuclear warhead.

SLCMs armed with nonnuclear warheads would be useful against theater targets (such as US SOSUS facilities) and for attacks on Iceland, the United Kingdom, Spain, the Philippines, Guam, and other important targets that would be difficult to reach and costly to attack with Soviet land-based aircraft. Non-nuclear-armed SLCMs could be employed on current attack submarines with fire control system modification. Such deployment, however, would involve some trade-offs for general purpose submarines, reducing their capability to perform traditional antiship and antisubmarine tasks because:

- Each SS-NX-21 carried will require a one-for-one reduction in the number of torpedoes carried.
- In some instances the operating areas required for land attack cruise missile launches would differ considerably from those required for optimum ASW and antiship operations.

94. The Soviets may also be considering placing SS-NX-21s on some of their principal surface combatants.

Surface-launched SS-NX-21s probably would be limited to strikes against theater targets, although occasional peacetime deployments of SLCM-armed surface combatants off the US coasts (for example, to Cuba) might be viewed by the Soviets as having significant political value.

95. The Soviets are developing a second family of long-range, land attack naval cruise missiles, designated SS-NX-24.

The SS-NX-24 probably will first become operational on the single Y-class SSGN in 1986 and later be deployed on a new class of SSGN not yet observed. We have no direct evidence, but believe the mission of the SS-NX-24 will probably include coverage of both US and theater targets.

96. One further aspect of Soviet SLCM deployment will be as an "analogous response" to NATO INF modernization. In November 1983, then First Secretary Andropov promised "corresponding Soviet systems will be deployed in ocean areas" and their "characteristics will be adequate to the threat."

the Soviets have maintained—for the first time—D-class patrols in the western Atlantic and eastern Pacific in addition to operating Y-class patrols closer to US shores more frequently. These deployments almost certainly represent part of Moscow's interim sea-based "analogous response." Such D-class deployments could not be maintained near US coasts beyond about early 1987 without adversely affecting force readiness. Forward deployment of D-class SSBNs indefinitely also is unlikely because of the increased vulnerability of the platforms to US ASW forces. Moreover, warning time is not truly "analogous" since flight time of SS-N-8 missiles from these SSBNs to US targets is 14 minutes or more because depressed trajectory is not an available option. Hence, while the Soviets could maintain a token D-class presence for primarily political reasons, we believe these SSBNs will eventually be withdrawn. We expect the Soviets will begin deployment of SS-NX-21-equipped SSNs off US coasts in 1985. Time of flight of the SS-NX-21 to likely targets closely approximates that of the US GLCM deployed in Europe. When operational, we believe the SS-NX-24 also will be deployed near US coasts augmenting, or perhaps replacing, continuous SS-NX-21 patrols. Patrols by SLCM submarines could eventually replace Y-class SSBN patrols in the western Atlantic and eastern Pacific. In Soviet eyes, such SLCM patrols could offer the potential dividend of forcing the United States to invest in an expanded early warning/air defense system to counter the new threat. In any event, we believe it highly likely that SLCM patrols within range of US targets will become a permanent feature of the Soviet strategic posture within the next two years.

97. The successful development and deployment of SLCMs is undoubtedly an item of high interest to the Soviet national leadership as well as the naval command. By giving the Soviet Navy yet another family of

nuclear-capable land attack systems, SLCMs could increase the stature and utility of the Navy within the Soviet military/political establishment and conceivably result in the provision of additional assets to protect the SLCM-carrying units. When deployed, they will add a new dimension to Soviet Navy capabilities and will complicate the defensive tasks of Western forces. At the same time, SLCMs are a weapon system with significant potential political value to the Soviet leadership in future arms limitations negotiations. In fact, it is conceivable the Soviets perceive SLCMs partly as a bargaining chip for US nuclear land attack cruise missiles. On the other hand, the Soviets probably recognize that proliferation of SLCMs could also represent a significant impediment to future arms-control agreements since it would be virtually impossible to verify which submarines were strategic arms carriers.

98. *Strategic ASW Against Ballistic and Land Attack Cruise Missile Submarines.* The Soviets recognize that their strategic ASW task will become not only more important but increasingly difficult during the 1980s and 1990s. During this period they almost certainly expect:

- Longer range SLBMs to enter service in the US, French, and British Navies. The US/UK Trident II D-5 (9,000-km range), for example, will greatly increase the ocean areas from which such missiles can strike Soviet territory (see figure 22).
- Western SLBMs such as the US Trident II D-5 to achieve sufficient accuracy for use against hard targets.
- Western general purpose submarines to be armed with long-range, nuclear land attack cruise missiles such as the US Tomahawk.
- Western programs to improve SSBN survivability through noise reduction, more reliable communications, and better sensors.
- China's first SSBN to enter service about 1986.

99. We expect that the Soviets will seek to improve the ASW capability of their submarines, surface ships, and aircraft in several ways, especially:

- Improved sonar systems, most notably better towed passive arrays, low-frequency sonobuoy systems, and associated signal-processing equipment.
- Increased emphasis on quieting of all attack submarine classes.

- Development of airborne and space-based non-acoustic sensors.

Such efforts probably will significantly improve the Soviets' capability to conduct ASW in relatively small areas. They could, therefore, be vitally important for the protection of Soviet SSBN bastions against intrusion by Western SSNs. Such improvements also could enhance the capability of Soviet SSNs to detect Western SSBNs as they exit their bases or pass through choke points. As a result, operations against SSBNs—particularly non-US units—should increase in the late 1980s. We do not believe, however, that such efforts will substantially improve the Soviet capability to counter Western SSBNs effectively because none of them are likely to solve the Soviet Navy's major problem—the inability to detect and track SSBNs in open-ocean areas.

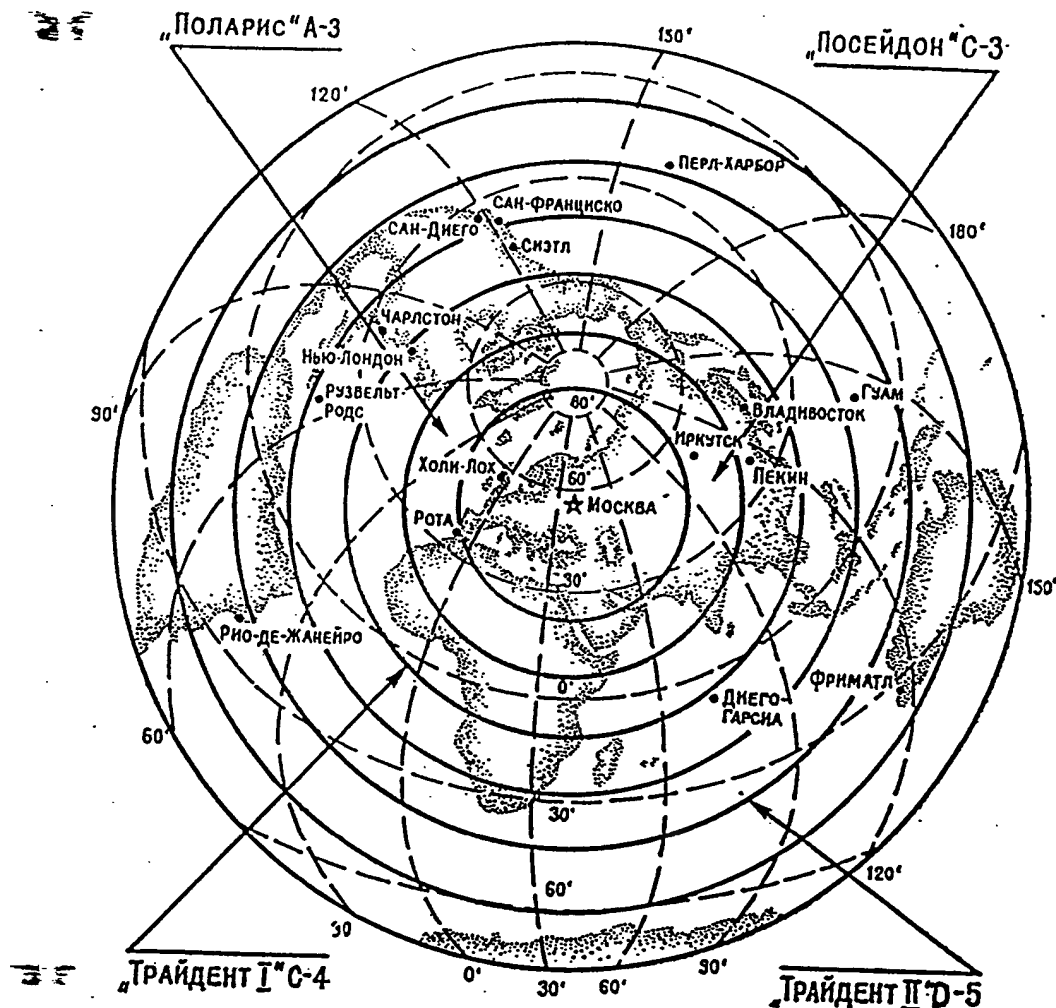
100. We estimate the Soviets will continue to seek such a detection capability through the development of sensors whose range or search rate can cover broad ocean areas. We do not believe the Soviets will seek to deploy fixed passive arrays similar to the US SOSUS system in Western SSBN operating areas because of the large number of arrays needed to have a reasonable chance of detecting SSBNs and a probable requirement for several shore facilities in Third World countries to serve as initial processing points for the data. Approaches which the Soviets may explore in developing such a capability include:

- Aircraft or a space-based system relying on non-acoustic sensors. To be effective, such a system would have to be able to cover broad ocean areas rapidly and to relay detection data both to shore facilities and ASW platforms. The development of such a system would be a logical evolution of current Soviet use of satellites in monitoring the activity of Western surface units. We are concerned about the energetic Soviet effort to develop a capability to remotely sense submarine-generated effects from aircraft or spacecraft. Although we continue to improve our understanding of the nature of the overall Soviet effort

[there remain important uncertainties about the full extent and direction of the Soviet program. Even if the research effort were to yield an exploitable phenomenon within the next year, funds for engineering development were immediately allocated, and development proceeded without difficulty, however, a fully operational system could not be in place before the mid-1990s.]

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Figure 22
Soviet Navy's View of Potential Search Areas for Its ASW Operations



This map from the Soviet Navy's professional journal indicates an awareness of the challenge to Soviet ASW caused by the introduction of Western SLBMs with longer ranges. (Polaris,

upper left; Poseidon, upper right; Trident C-4, lower left; Trident D-5, lower right.)

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Morskoy Sbornik (Naval Digest)
No. 6, 1981
"The U.S. Navy by the Year 2000"

— Programs to analyze passively the low-frequency acoustic spectrum, which probably will enable the Soviets to detect submarine noise signatures over greater distances. [

] Future towed arrays, which we project for initial deployment by the early 1990s, will

have higher search rates from a combination of longer detection range and higher speed. If deployed in large numbers, such as on hundreds of research ships and intelligence collectors, these arrays could theoretically provide initial detection of older Western SSBNs. The arrays, however, probably would not be effective against the quieter Ohio-class SSBNs, and their capability against even the older Western SSBNs while patrolling would be very limited. In addition, tactical and technical countermeasures could further reduce the vulnerability of older classes.

- The development and deployment of a low-frequency, active sonar operating below 1 kHz. Such a system has the potential for monitoring large ocean areas and detecting patrolling SSBNs. Although Soviet research efforts in this area are extensive, such a system is unlikely to be fielded before the late 1990s.

101. We do not believe there is a realistic possibility the Soviets can deploy in the 1990s a system that could reliably detect and track US SSBNs operating in the open ocean. For this reason, we expect that the Soviet Navy will continue to focus its anti-SSBN efforts on attempting to detect and attack Western SSBNs as they exit their bases or pass through choke points. If, however, through some technological breakthrough the Soviets were able to detect Western SSBNs in the open ocean, they would then have a new problem of how to attack them. Such attacks might be conducted by the traditional technique of deploying surface, submarine, and/or air units to the datum. This approach would require that the Soviets deploy larger numbers of general purpose naval units at greater distances from Soviet territory than is currently anticipated. In addition to attack submarines, these operations might involve surface combatants, including carrier battle groups. ASW aircraft operating from Third World airfields could cover at least some SSBN operating areas if access rights were granted and the host country were willing to risk becoming a belligerent. Unless there were a substantial increase in the size of the Soviet Navy or the detection breakthrough enabled the Soviets to provide SSBNs protection with fewer general purpose units, such a change in naval wartime deployments would require sacrificing much of the capability to protect the SSBN bastions.

102. The Soviet Navy's strategic ASW problem will be further complicated by the United States' plan to arm its newest classes of attack submarines—potentially over 70 units—with the land attack version of the

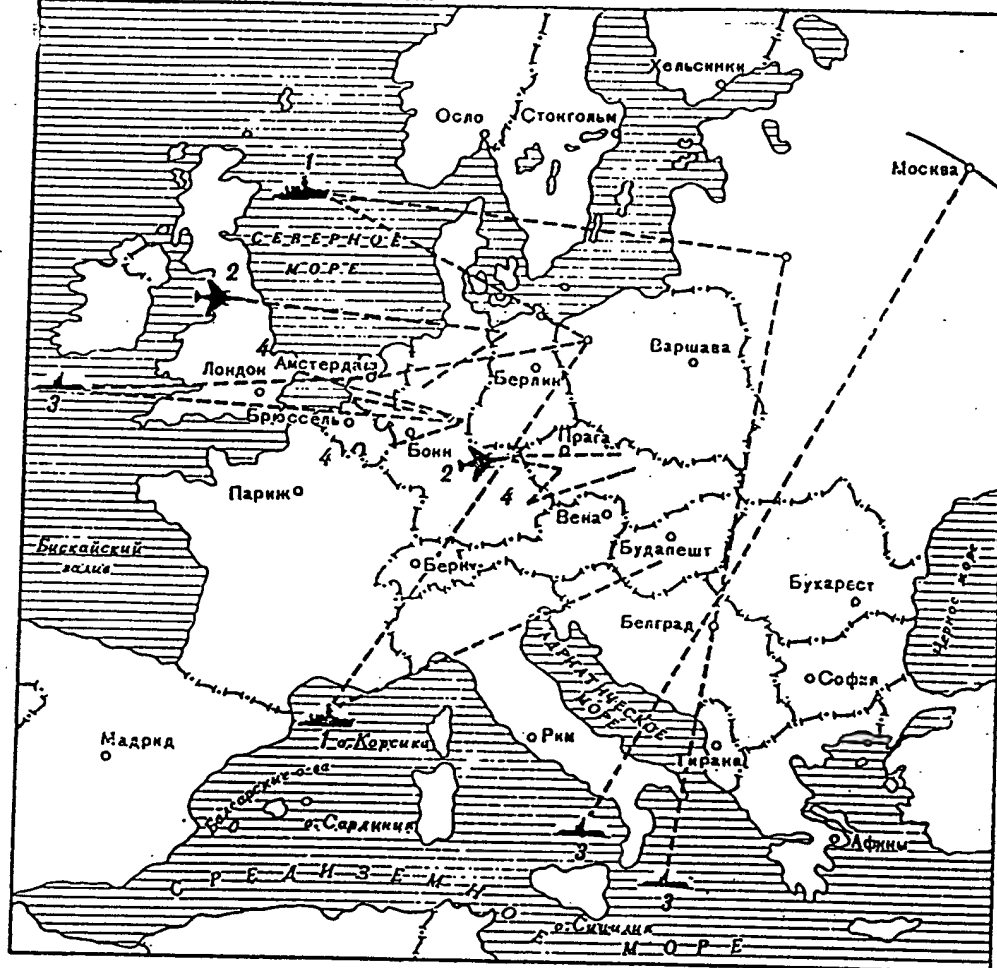
Tomahawk SLCM. Although there are plans for a conventional variant, the Soviets are undoubtedly most concerned with the strategic implications of nuclear-tipped SLCMs. The employment of such SLCMs will complicate the Soviet ASW problem in two ways:

- The number of US strategic-missile-firing submarines will triple.
- The range of the nuclear Tomahawk will allow SLCM-armed submarines to strike Soviet territory from areas where it will be difficult for the Soviets to concentrate ASW forces.

103. Much of the defensive requirement against Tomahawk-armed submarines would coincide with and overlap other ASW efforts against Western units within Soviet sea control/sea denial areas. To reach targets deep within the USSR from the Norwegian Sea or Northwest Pacific, for example, Tomahawk-armed submarines would have to approach Soviet territory. In doing so they would pass through at least some of the echeloned ASW defenses the Soviets would establish to protect their SSBNs. Some targets near the Soviet coast, on the other hand, could be reached by SLCMs fired from the outer edges of the Northern and Pacific Ocean Fleets' defensive thresholds. SLCM-armed submarines operating in these areas would be able to avoid the bulk of the Soviet ASW defenses in the Norwegian Sea and Pacific Ocean.

104. One option available to the Soviets to counter this threat could be to extend the area of sea denial operations, possibly out to about 3,000 kilometers. The Soviets probably believe that a capability to conduct more extended sea denial will largely depend on their ability to contest the air superiority and ASW capability afforded NATO by carrier and land-based aircraft in areas such as the G-I-UK gap. They probably also believe that their ability to contest such airspace will necessitate operations by future surface combatant task groups, including CTOL aircraft carriers, at greater ranges from Soviet territory than currently planned. Any extension of the area for sea denial operations therefore will probably be accompanied by a corresponding extension of initial sea control areas—possibly as far as 2,000 kilometers. This would be more feasible for the Northern Fleet than for the Pacific Ocean Fleet. Given improved air cover from carrier-based aircraft in the 1990s and/or from captured airfields in Norway, the Northern Fleet could shift the focus of its ASW efforts away from the SSBN bastions in Arctic waters southward to the G-I-UK gap. Control of the gap would both significantly increase Soviet capabilities to contest Western use of the Norwegian

Figure 23
Soviet View of Tomahawk Threat



We believe this illustration, although published in an unclassified Soviet naval journal, accurately reflects Soviet concern regarding potential use and employment areas for the Tomahawk. Soviet caption: "This is how NATO strategists propose using Toma-

hawk: from surface ships (1), aircraft (2), submarines (3), and ground launchers (4).

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Morskoy Sbornik (Naval Digest)
No. 5, 1980
"Attention: Tomahawk"
Capt. First Rank B. Rodionov

Sea as an SLCM launch area and help protect Northern Fleet SSBNs from enemy ASW forces. Access to the Northwest Pacific Basin, on the other hand, is not restricted by any choke points that would facilitate a more forward-oriented ASW strategy. The Soviets, however, probably do not believe that the threat from SLCMs would be as great in the Pacific as in the Norwegian Sea. They probably expect that the majority of US SLCM-armed submarines would be deployed in European waters from which the more numerous military and economic targets located in the Western USSR could be engaged.

105. The Soviets believe submarine-launched cruise missiles can also reach targets in the western USSR when fired from the central Mediterranean and North Seas, areas where the Soviets plan sea denial operations against carrier battle groups but probably only limited ASW efforts (see figure 23). Countering SLCM submarines in these areas could pose some tough choices for the Soviets. Any additional submarines deployed to these areas would lessen force allocations for other missions such as SSBN protection, prosecution of Western SSBNs, and interdiction of Western sea lines of communication. If the Soviets do opt for increased ASW efforts in the North and Mediterranean Seas,

they probably would allocate more diesel submarines for barrier patrols in the northern entrance to the North Sea and in the Mediterranean choke points such as the Straits of Gibraltar and Sicily.

106. The Soviets could ultimately decide that the required allocation of resources and the opportunity costs involved in countering SLCM-armed submarines in their patrol areas were too costly. Given their limited ASW detection capabilities, moreover, the Soviets probably would be pessimistic about their ability to counter SLCM-armed submarines in areas such as the central Mediterranean and the North Sea, even if substantial forces were deployed there. An alternate strategy might limit efforts specifically aimed at the cruise missile submarine to deploying a few attack submarines in the approaches to Western attack submarine bases—efforts similar to the Soviets' anti-SSBN tactics. Major emphasis would then be placed on countering the missiles themselves through a combination of improved land-based air defense systems.

107. *Antisurface Warfare (ASUW)*. Although the Soviets view Western submarines as the major naval threat to their territory and SSBN havens, their perception of the threat from Western surface forces and the importance they attach to ASUW are likely to increase during the next two decades. Carrier battle groups will continue to be perceived as major threats to Soviet and Warsaw Pact territory, SSBN havens, and operations in the land TVDs. Concern with carrier battle groups will remain high because of:

- Soviet expectations that the number of carriers in NATO will at least remain constant and probably increase as the result of US plans to expand to a 15-battle-group navy; the reemergence of sea-based fixed-wing aviation in the Royal Navy; and French, Italian, and Spanish carrier construction programs.
- Expected improvements in the offensive capability of carriers by equipping their aircraft with cruise missiles such as Tomahawk.
- Improvements in the ability of carrier battle groups to defend themselves against attack through such programs as the AEGIS air defense system.

108. Further, the Soviets will no longer be able to concentrate on aircraft carriers as the only Western surface units posing a significant threat to their territory. The Soviets are fully aware of US plans to equip major combatants with the land attack version of the Tomahawk missile. They realize that this would result

in a substantial increase in the number of Western surface units capable of striking the USSR with nuclear weapons. This would greatly complicate their strategic defensive task because any major surface combatant would have to be considered a potential nuclear threat.

109. To meet this threat the Soviet Navy will continue efforts to improve its ASUW capabilities. Of particular importance will be:

- Construction of general purpose submarines—such as the O-class SSGN and M-, S-, and Akula-class SSNs—equipped with advanced antiship torpedoes and cruise missiles. Such construction is likely to continue into the 1990s.
- Construction of surface combatants equipped with antiship missiles. The number of major surface combatants armed with such missiles is likely to increase substantially as a result of current construction programs (Kirov, Kiev, Slava, Sovremennyy) and their projected follow-ons. There is evidence, moreover, that the SS-N-14 ASW cruise missile has a secondary antiship capability.
- Continued production of Backfire bombers for SNA, enough to equip a projected 10 regiments by the early 1990s. A probable new bomber with performance characteristics similar to Backfire could be introduced in the 1990s to replace the Navy's aging Blinders and Badgers. Alternatively, Blackjack—a new strategic bomber in development—could be introduced into SNA by the mid-1990s if the Soviets do not produce the Backfire follow-on. With a combat radius of up to 4,000 nm, Blackjack is well suited to deliver large-scale cruise missile attacks at the outer edge of the expanded sea denial areas we project. Aircraft introduced in the 1990s are also likely to incorporate some low observable (stealth) technology to make them less susceptible to detection.
- Deployment of more capable sea-based fighter-bombers, both VSTOL aircraft operating from Kiev-class ships and CTOL aircraft operating from a new class of carrier.

The introduction of these new platforms will greatly increase the number of missiles available for attack and will coincide with other efforts to improve ASUW capability. In particular:

- Improvements are likely in antiship missiles, especially in target discrimination capability, survivability, and reaction times. For example, the

SS-N-22—now operational on Sovremennyy- and Tarantul-class units—is much faster (Mach 2+) and can approach the target at lower altitudes [] than such currently operational missiles as the SS-N-2 and SS-N-9. Further, an AS-4 variant, which cruises at about 30-km altitude, above current US fleet defenses, could eventually be operationally deployed on Backfire and Bear G bombers.

- The capability of the radar ocean reconnaissance satellite (RORSAT) to detect ships and distinguish target size probably will be enhanced. Detection will be improved by reducing the effects of sea clutter and rain.
- Evolutionary improvements are likely in the electronic intelligence ocean reconnaissance satellite (EORSAT) directed toward increased longevity, enhanced probability of detection, and continuous targeting capability through higher orbits, better sensors, and a wider field of view. We expect the Soviets will continue to convert older submarines and equip new surface and submarine units with the capability to use real-time EORSAT (and RORSAT) data to support antiship cruise missile systems.
- Improvements in sensor systems and the expected development of large, permanently manned space stations will increase the scope and effectiveness of the Soviet manned space program for ocean surveillance.
- The development of a synthetic aperture radar surveillance satellite to provide improved all-weather, worldwide naval surface locating data is now probable during the latter period of this Estimate.
- AAVGK's role in maritime strike operations probably will increase commensurate with the increase in threat from Western naval forces. New AAVGK long-range bombers, possibly including the Bear H ALCM carrier and a version of the Blackjack, probably will be assigned a maritime strike role, as has the Bear G. These bombers could attack Western surface targets in the central Atlantic from Soviet territory.

110. The execution of the ASUW task probably will continue to be primarily concentrated in areas such as the Norwegian and North Seas, the eastern Mediterranean, and the northwestern Pacific—the principal areas from which carrier aircraft and sea-based cruise

missiles could be launched against Soviet territory. Coordination of Soviet submarine and surface ship operations with those of land-based medium bombers is improved by concentrating ASUW in these areas. Soviet ASUW doctrine is likely to continue its emphasis on "first salvo" attacks—tracking Western surface units during the prewar period of tensions and attacking the most important of them with maximum force at the outset of hostilities. The Soviets undoubtedly recognize that this goal will become more difficult to achieve as the number of important targets grows with the introduction of nuclear Tomahawk, increases in the number of NATO surface battle groups, and the wide deployment of improved missile defensive systems such as AEGIS. The proliferation of high-value targets is likely to contribute to a greater emphasis on ASUW operations of extended duration (days and weeks rather than minutes and hours). Indications of such emphasis are already visible in exercises and in weapons-loading features of new units.

111. Although most ASUW operations will be concentrated relatively close to Soviet territory, the Soviets probably will seek in the mid-1980s to extend the outer edge of the Northern and Pacific Ocean Fleet sea denial area somewhat beyond the current threshold of roughly 2,000 kilometers to counter the long range of Western SLCMs. Some attacks at much greater distances from Soviet territory are possible. Among the options they might find attractive for such operations are the deployment of missile-equipped aircraft to bases outside the USSR—if the host country were willing to risk becoming a belligerent—and equipping SNA with long-range bombers. The Soviets could also choose to employ the carrier force we project for the late 1990s against Western aircraft carriers operating beyond Northern and Pacific Ocean Fleet sea denial areas. We believe this would be an unlikely option, however, since these few Soviet carriers would probably be deemed more useful and survivable in a multipurpose role within the expanded sea control/denial areas. While the Soviets probably do not consider the ASUW problem to be as difficult as ASW, they apparently expect it to remain a major and growing challenge through the 1990s.

112. *Antiair Warfare (AAW) at Sea.* The Soviets recognize that the ability of their surface ships to conduct ASW and ASUW operations and project power beyond the range of land-based air cover is heavily dependent on their capability to defend themselves against air attack. The successful use of sea-skimming antiship missiles in the Falklands crisis probably has increased the already evident Soviet concern over the proliferation of these weapons in

Western navies. The Soviets also realize that Western use of radar-cross-section reduction techniques will further complicate defense efforts against cruise missiles. Historically, the Soviets' air defense efforts were characterized by own-ship defense-in-depth with multiple weapon systems of various ranges. Recent Gatling and dual-purpose gun systems and the SA-N-7 and SA-NX-9 SAM systems continue this philosophy.

113. The SA-N-6 SAM system being deployed on cruisers of the Kirov and Slava classes, however, is a long-range system that could provide the Soviets their first genuine area air defense capability against aircraft. The system design includes a pulse-Doppler fire control radar and a digital fire control computer which should permit short reaction times, good target detection and tracking, and the capability to engage six targets simultaneously. The SA-N-6 also is designed to engage low-altitude, low-radar-cross-section targets, such as antiship cruise missiles. [

Until [] the SA-N-6 is expected to be less effective, at least in low-altitude, low-radar-cross-section engagements, than older SAM systems. We nonetheless expect that the SA-N-6 or follow-on area air defense weapons will be deployed on all future cruisers.

114. The Soviets also probably will improve their defensive systems' signal-processing capability and will continue to improve radar performance. Other likely developments in naval air defense will include improvements in handling multiple targets, better low-altitude fuzing and target detection in a sea clutter environment, and additional electronic countermeasures (ECM) and electronic counter-countermeasures (ECCM).

115. In addition to continued work in gun and missile technology, the Soviets are exploring the potential value of laser air defense weapons. At least two such systems likely are in development at the Saryshagan Missile Test Center. It is possible that a shipborne laser weapon, perhaps a low-energy system designed to counter electro-optical systems, will be installed on at least one new ship class by the end of the decade. We also believe a naval high-energy laser weapon may be operational by the early-to-mid-1990s. If laser

weapons prove practical in a naval environment, we expect them to be deployed on many Soviet principal surface combatants by the year 2000, particularly for close-in and low-level defense against cruise missiles.

116. Soviet fleet air defense capability will be further enhanced by the introduction of improved VSTOL aircraft as well as high-performance CTOL fighters on the projected new class of aircraft carrier. The overall effectiveness of the Soviets' efforts to protect their surface fleet against air attack, however, will depend on their ability to integrate the operations of carrier- and land-based aircraft with shipborne SAM, gun, and laser systems. To this end, the Soviets have developed an airborne warning and control system (AWACS)—Mainstay—to coordinate their air defense assets. We expect up to 60 Mainstay in the Soviet Air Force inventory by the mid-1990s. Mainstay's radar system is much improved over that in the earlier TU-126 Moss airborne early warning (AEW) aircraft. [

[] Used in conjunction with new fighter/interceptors such as Foxhound, Mainstay could support air defense operations at greater distances from the Soviet periphery. We expect that future Soviet carrier-based aircraft will be made compatible with the AWACS. A carrier-based AEW aircraft is also expected but no candidate is yet evident; the Soviets may initially opt to use helicopters for this mission. We believe the AWACS, AEW, and most new fighter aircraft will be capable of exchanging information with shipboard air defense commanders via digital links. The Round House and Top Knot data link systems—deployed on Kiev-, Kirov-, and Udaloy-class units—probably provide the capability to establish data exchange and communications/navigation/identification (CNI) nets for a more integrated and effective air warfare system. Because of lack of experience in managing complex fleet air defense operations, however, we believe overall Soviet fleet AAW effectiveness will improve more slowly than the individual components during the period of this Estimate and, in the face of improved Western systems and tactics, is likely to remain a deficiency through this century.

117. Moreover, in our judgment, the Navy will not be able to perform effectively in a national air defense or joint anti-ALCM system much beyond Soviet coastal waters through the 1990s. Competing mission requirements, inadequate training, and underdeveloped joint command structures probably will limit the Navy primarily to such measures as deploying radar picket and possibly command, control, and communications ships along certain ALCM approach routes to augment AEW aircraft in providing early warning to shore-based air defense forces.

118. *Air Power at Sea.* A major change in the Soviet Navy in the next 10 to 20 years probably will be the introduction of its first Western-style aircraft carriers—that is, ships equipped with catapults and arresting gear and thereby capable of handling CTOL high-performance aircraft. We expect that the first of these ships, probably a 65,000- to 75,000-ton unit with nuclear propulsion, will become operational by about 1990 and that four or five could be built by the end of the century. Each ship probably could carry an air group of up to 60 aircraft. We estimate that this air group would consist of about 35 to 45 fighter-attack; two to four AEW; and 10 to 12 ASW, reconnaissance, and utility aircraft.

119. Although aircraft carriers will enhance Soviet capabilities to project power and influence in distant areas, we believe their primary mission will be to help expand the area of Northern and Pacific Ocean Fleet wartime sea control operations. During a general war, Soviet aircraft carrier operations probably will focus initially on providing air defense for surface groups supporting Soviet SSBNs and defending the sea approaches to the USSR in the Norwegian Sea and Northwest Pacific Basin. The air cover provided by carrier-based fighters probably will allow the Soviets to operate surface units at greater distances from Pact territory than currently envisioned. Other tasks of Soviet carrier aircraft could include:

- Conducting ASW with embarked helicopters.
- Attacking Western surface units, especially those armed with SLCMs.
- Providing air cover for SSNs in sea denial areas.
- Escorting land-based reconnaissance, strike, and ASW aircraft during part of their operations.
- Attacking Eurasian land bases and facilities.
- Supporting ground force operations.
- Attacking ALCM carriers along certain approach routes.

— Attacking Western aerial and surface resupply efforts within Soviet sea control/denial areas.

In conducting such operations, Soviet carriers will operate with other surface units and possibly submarines and land-based aircraft. Their lack of experience in such complex operations, however, suggests that it will be around 1995 before a reasonable standard of operational proficiency can be attained.

120. Although the construction of a new class of aircraft carrier is the policy of the present Soviet political and naval leadership, it is the type of program that could suffer from radical policy shifts or severe economic problems. The enormous costs involved, not only for the ships themselves but for the air group, supporting vessels, and shore-based infrastructure, could make the program vulnerable to cancellation or delay if the Politburo seeks to reduce or reorder the burden of defense expenditures.

121. Regardless of Soviet decisions concerning CTOL aircraft carriers, the Soviet Navy probably will introduce improvements in its V/STOL aircraft for the four Kiev-class ships and the new carrier now under construction. Such improvements are likely to involve a shipboard ramp for assisted takeoffs and a replacement for the Forger that has greater endurance, speed, payload, and air defense capability.

122. *Surveillance and Targeting Integration.* We have already discussed under ASW, ASUW, and AAW probable Soviet advances in detection and tracking by improvements in sonar, AWACS, and manned, radar, optical, and ELINT satellites. By the year 2000, these instruments could provide the Soviets with a broad ocean-area capability to:

- Differentiate more accurately among small, medium, and large surface ships in moderate sea states and weather conditions.
- Provide accurate locating information and hull-to-emitter correlation on most unit communications and radar emissions.
- Possibly locate and track large, fast-moving submarines near the surface.

123. During the period of this Estimate, the Soviets will also improve their capability to integrate this sensor information and provide data in near-real time to selected attacking platforms through their command, control, and communications systems. Provision of this surveillance information will be enhanced by systems of advanced satellites providing worldwide, rapid, secure, two-way data link communications and

large military space stations, possibly in high orbit over the Atlantic and Pacific Oceans. The Soviet Navy will also have at least two, and perhaps as many as six, large new ships that may be used in wartime for processing and disseminating battle information; however, we are uncertain of precisely how these ships will be integrated into the Soviet battle management scheme.

124. These advances probably will provide the Soviets with a capability to maintain a real-time plot in large selected ocean areas of nearly all surface units that continually emit and of most large units practicing emission control. This plot could be degraded, perhaps substantially, by such factors as bad weather, high seas, crowded oceans, sophisticated deceptive emission practices, and other potential countermeasures, including direct attack. We do not anticipate that atmospheric and space sensor and communications advances will appreciably enhance Soviet capability to surveil subsurface targets.

125. Moreover, despite these projected improvements in Soviet maritime surveillance and targeting capability, use of long-range cruise missiles against selected surface targets will continue to be hampered by:

- Number and insufficient geographic spread of platforms.
- Missile range—though maximum ranges could be 650 to 850 kilometers in the late 1990s.
- Probable lack of target position update during missile flight.

Hence, optimum wartime tactical exploitation of the information provided by surveillance systems on surface targets—particularly those beyond about 2,000 kilometers—probably would be difficult to achieve. There is little doubt, however, that SSBN protection against surface and air intruders will be substantially enhanced by more capable Soviet surveillance and attack platforms available in the 1990s.

126. *Protection of State Interests in Peacetime and Limited War.* Although the primary emphasis in Soviet naval developments will continue to be on improving capabilities in a war with NATO, Soviet writings, construction programs, and exercises indicate a recognition of the value of naval forces in situations short of general war. Programs currently identified or projected by the US Intelligence Community will result by the mid-to-late 1990s in substantial improvements in the Soviet Navy's capability to project power and influence in distant areas.

127. The most important improvement will stem from the construction of aircraft carriers capable of handling high-performance aircraft. The lack of adequate air support has been the major operational weakness of Soviet naval forces in distant areas. A task force of two carriers with a total of some 120 aircraft would eliminate much of this weakness and should provide the basis for establishing air superiority in many Third World situations in which the United States did not become involved. Soviet writings concerning the use of carriers emphasize their value in show-the-flag and limited-war situations.

128. Gradual improvements anticipated in amphibious forces also will enhance Soviet capability to project power in distant areas. We expect continued modest acquisition of naval amphibious ships, including additional LPDs and, perhaps, the first LPHs, as well as LSTs and LSMs. The Soviets also will continue exploring the use of advanced cargo ships such as roll-on/roll-off and oceangoing barge carrier (LASH) ships in amphibious landings. The Soviet Naval Infantry (now at a strength of about 16,000) will grow, perhaps to some 22,000 to 26,000 men. A new Northern Fleet SNI facility was identified east of Murmansk in September 1984. We believe this will be the home of the second Northern Fleet SNI brigade. Additional amphibious assault forces will be available in all fleet areas from ground forces units trained in such operations.

129. We do not believe that these estimated improvements will be sufficient to enable the Soviets to conduct amphibious operations in distant areas during a war with NATO. Such wartime operations will continue to emphasize areas on the Soviet periphery. Nor will such improvements make it practical to conduct landings in situations in which Western or even moderately strong indigenous forces would be in opposition. These improvements, however, will provide Soviet leaders with a much-improved capability to overcome the opposition that could be offered by most Third World countries, especially those that were intrinsically weak or beset by internal divisions. Such improvements could also be used to support client states involved in military operations against other states or internal opponents.

130. The amount of time spent by Soviet general purpose units outside home waters is likely to increase only slightly in the late 1980s and 1990s. Constraints

on a major increase in regular out-of-area deployments probably will continue to include:

- The need to retain most naval forces close to Soviet home waters and in a readiness condition for rapid deployment to critical wartime operating areas such as the Norwegian Sea.
- The fuel and maintenance costs of out-of-area deployments, even at the low levels of activity typical of Soviet units.
- A recognition by the Soviets that the usefulness of deployed naval forces is not necessarily a direct correlation of size, but rather mainly involves military capability and the political value of any naval presence as a signal of Soviet interest in an area.

Changes in out-of-area deployments are likely to be most significant in terms of the capabilities of the units involved (new aircraft carriers, Ivan Rogovs, Kirovs, and so forth) and the areas in which they will operate. Some areas where the Soviets maintain a permanent naval presence (Indian Ocean, Mediterranean and South China Seas, and West Africa) are likely to undergo further gradual expansion in response to political imperatives, primarily a desire to support the maintenance of established "socialist" regimes and the creation of new ones. To support such operations, the Soviets will continue their attempts to achieve increased access to foreign facilities.

131. In addition to supporting peacetime naval operations, the Soviets probably would seek to use facilities in Third World countries in both a war against NATO and other lesser conflicts. The most likely role of such facilities in wartime would be as positions from which Western force movements can be monitored during the period of tension before the outbreak of war. We therefore expect to see continued efforts to obtain the use of airfields to support reconnaissance flights, as well as the establishment of SIGINT, communications, and possibly submarine-tracking facilities. The Soviets probably will continue to regard the use, especially the sustained use, of facilities in Third World countries in wartime as of questionable value because of their vulnerability and the possible unwillingness of host governments to risk becoming belligerents. The advantages to the Soviet Navy, however, of using such facilities are potentially substantial, particularly in operations against SSBNs and carrier battle groups at the outset of hostilities. We think it likely, therefore, that efforts will be made to

develop relations with Third World countries that will make wartime use of facilities, especially by aircraft, a more realistic possibility. The Soviets' major base at Cam Ranh Bay, Vietnam, is a prime example of such a facility.⁷

III. PROSPECTS FOR THE SOVIET NAVY

132. Our examination of the current role of the Navy in Soviet military strategy, naval R&D and construction programs, and the key issues facing Soviet planners enables us to make a judgment as to the most likely course of development for the Navy over the remainder of this century. We recognize, however, that an estimate covering such a long period of political, economic, and technological changes must be viewed with caution. An examination of some less likely but still feasible courses of development is therefore included as well. These alternative courses of development are not meant to be exhaustive but rather to indicate some of the types of variables that could change our baseline estimate.

A. Baseline Estimate

133. We believe that our assessment of the wartime strategy of the Soviet Navy in NIE 11-15-82 remains valid. We also continue to believe that this strategy will be essentially unchanged through the turn of the century in terms of the major tasks and the composition of forces to carry out those tasks in the initial stages of a general war with NATO. We still expect that the requirement to counter advances in Western naval offensive capabilities, however, will drive the Soviets to expand the areas in which their forces would be deployed for initial sea control/sea denial operations. They will continue to introduce new weapon platforms and systems into the Navy and seek to develop improved war-fighting capabilities for the full range of anticipated general and limited war situations. We believe, however, that these changes will occur within the framework of the Soviets' present strategy because they probably will continue to view it as offering the best chance of accomplishing their vital wartime tasks.

134. The single most important task of the Navy will be to participate in strategic strike, primarily using SLBMs and probably SLCMs. The importance of

⁷ For a full discussion of Soviet use of military facilities overseas, see NIE 11-6-84, *Soviet Global Military Reach*, November 1984.

sea-based nuclear strike assets within the USSR's overall military strategy could grow because:

- The number of Soviet strategic nuclear warheads assigned to SSBNs will increase as the force is increasingly armed with MIRVed SLBMs.
- Some Soviet SLBMs in the 1990s could be sufficiently accurate to be used effectively against hardened targets.
- Soviet silo-based strategic systems may become more vulnerable.
- New sea-launched, long-range nuclear land attack cruise missiles will enhance Soviet offensive strike capabilities.
- The ASW capabilities of the new classes of attack submarines now entering the fleet—along with other measures to protect SSBNs—could enhance the perceived survivability of the SSBN force.

The combination of increased SLBM accuracy, SSBN survivability, SLCM deployment, and fixed ICBM vulnerability will provide powerful incentives for the Soviet Union to continue the modernization of its strategic strike capability.

135. We nonetheless believe the Soviets will continue to regard their SSBNs as vulnerable to enemy ASW forces throughout the period of this Estimate. Protection and support for Soviet SSBNs, therefore, is likely to remain the most important consideration in the initial wartime deployment of a large portion of general purpose naval forces of the Northern and Pacific Ocean Fleets. Pacific Ocean Fleet forces would be concentrated in the areas of the Northwest Pacific Basin, the Sea of Japan, and the Sea of Okhotsk. The Northern Fleet would deploy the bulk of its forces to the Barents, Greenland, and northern Norwegian Seas, although the outer edge of what we describe as the Northern Fleet sea control area probably will expand to include the southern Norwegian Sea, primarily to facilitate an extension of sea denial operations beyond the G-I-UK gap. This would be intended principally to counter Western SLCM-armed ships and submarines, but would also support other operations in the Atlantic (see figure 24). Pacific Ocean Fleet sea control operations would also expand somewhat (see figure 25). The major mission of Soviet CTOL aircraft carriers probably will be to assist in expanding these areas. Concentrating forces there will continue to appeal to the Soviets because it will enhance integration of their submarine and surface units with the land-based air

support which, even after the introduction of a few aircraft carriers, will continue to constitute the bulk of the forces of SNA.

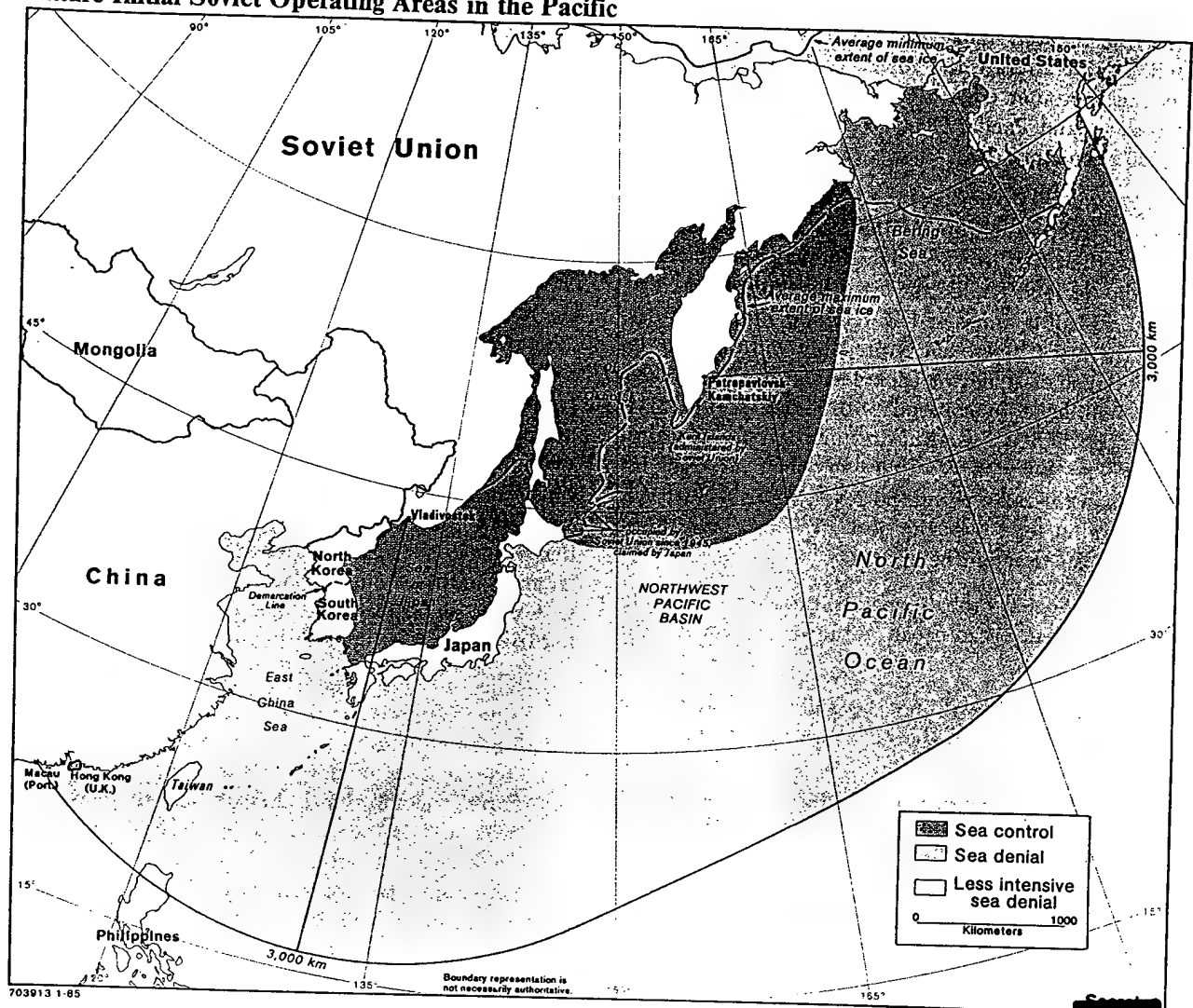
136. The Soviets probably will continue to view Western SSNs as the primary threat to their SSBN force and will conclude that the best chance of detecting such SSNs lies in waiting for them to enter relatively confined areas where the Soviets will have a concentration of forces and where their short-range sensors can be used to best advantage. Expected improvements in Soviet ASW platforms, sonars, and tactics (especially in submarines), and fixed-sensor technology, along with increased use of under-ice patrols probably will improve—perhaps substantially—the Soviet Navy's ability to protect its SSBNs. These developments could enable the Soviets by the mid-1990s to reduce somewhat the number of SSNs dedicated to protecting the SSBN force. Any such submarines freed from this mission would probably be used primarily to increase the density of ASW barriers in the forward areas of expanded sea denial zones and/or as SLCM carriers. Some could be assigned anti-SSBN tasks. A few older SSNs could have an anti-SLOC role. We doubt, however, that the Soviets will view such improvements as sufficient to allow a significantly lessened initial commitment of forces for SSBN protection.

137. New long-range land attack cruise missiles will markedly enhance the Soviets' sea-based offensive strike capabilities. We expect to see them deployed primarily as part of the weapons load on Moscow's newest SSNs and on a limited number of dedicated SSGNs beginning in the latter 1980s. They will probably have primarily Eurasian theater strike responsibilities but would be employed also against US targets. Since operating areas required for theater SLCM launches would in some instances differ appreciably from those required for optimum defensive tasks, SLCM-armed SSNs would probably operate throughout the Soviets' expanded sea control/sea denial areas. During the initial stages of war, those carrying only a few SLCMs probably would deploy primarily in the sea denial areas as part of the Soviets' forward ASW/ASUW barriers. Dedicated SLCM-armed SSNs/SSGNs with theater responsibilities would generally patrol within range of their targets behind the forward ASW barriers and could be protected by dedicated ASW assets. Development of nonnuclear SLCM warhead options would further increase the utility of these weapons against important theater targets difficult to reach and costly to attack with land-based aircraft. SLCM patrols off the US coasts should become a permanent feature of the Soviets' peacetime strategic

Figure 24
Future Initial Soviet Operating Areas in the Western TVDs



Figure 25
Future Initial Soviet Operating Areas in the Pacific



posture as early as 1985 and could eventually supplant the Y-class SSBN presence. These SLCMs will add new diversity and flexibility to the USSR's strategic strike capabilities. They also offer the potential dividend of complicating Western defensive tasks and forcing substantial investment in expanded early warning/air defense systems.

1. Soviet planners could not be sure of using them in a preemptive strike against the United States without losing the advantage of surprise and giving warning of the attack. The long flight time of the subsonic SS-NX-21 makes it particularly unlikely the Soviets would launch that missile against US targets prior to ballistic missile launches. SLCMs are especially suitable, however, for

follow-on strikes against industrial concentrations, command and control sites, and soft military targets such as bomber bases and ammunition depots.

138. Northern and Pacific Ocean Fleet operations in support of the nuclear strike mission will coincide with those for a portion of a second important task, strategic defense. Such operations, together with some of those of the Black Sea and Baltic Fleets, will seek to destroy Western aircraft carriers and strategic cruise missile platforms after they cross Soviet defense thresholds, now generally some 2,000 kilometers from Soviet territory. We expect such operations to be of growing importance to the Soviets because of their

expectations concerning the proliferation of Western strategic cruise missiles. To counter Western cruise missiles launched from surface ships and submarines and the standoff range these missiles afford carrier-based strike aircraft, the Soviets probably will seek to extend the outer edge of the sea denial areas of the Northern and Pacific Ocean Fleets to approximately 3,000 kilometers.

139. Another portion of the strategic defense task—the destruction of enemy SSBNs before they can launch their missiles—will pose an increasing dilemma for the Soviets. The deployment of hard-target-capable US SLBMs, improved British and French SSBNs, and the first Chinese SSBN probably will increase the importance of achieving such destruction. The Soviets also will have to contend with Trident II SLBM-equipped SSBNs operating in much expanded patrol areas. The Soviet Navy's ability to detect and track US SSBNs in the open ocean, however, probably will not improve, at least over the next 15 years. This assessment is based on our belief that:

- The Soviets probably will be unable to deploy an effective broad-ocean acoustic or nonacoustic sensor.
- Soviet SSNs will not be sufficiently quiet—at least throughout the next decade—to engage in covert trail, and Soviet ASW aircraft will not be deployed in sufficient numbers or have adequate range to maintain contact in US SSBN patrol areas.
- Overt trail will become increasingly feasible—particularly in choke points and relatively confined areas—as new nuclear attack submarines enter the fleet in number, but the Soviets will still not have sufficient platforms to threaten the US SSBN force. A decision to use a substantial number of SSNs in this manner, moreover, would divert them from other missions such as protecting Soviet SSBNs.
- There will not be a significant increase in access to new overseas facilities for Soviet ASW and reconnaissance forces in the coming years, although expansion in operations from presently available facilities will occur.

We therefore expect that Soviet naval anti-US SSBN operations will continue to be modest, with only a relatively few attack submarines stationed in the approaches to US submarine bases. Operations against non-US SSBNs—which could become vulnerable to

improved Soviet ASW in the late 1980s—should increase.

140. We believe that Soviet procurement of naval weapon platforms and systems over the period of this Estimate will remain driven primarily by requirements stemming from the strategic offensive and defensive tasks outlined above. The importance of these tasks should provide a solid basis for the Navy to continue receiving at least the same share of the defense budget that it has received since the 1960s. Such an allocation of resources means that the Soviet Navy will continue to receive new platforms, including new classes of large surface combatants, attack submarines, and aircraft. The production rate will not completely offset the retirement of older units. The accelerating cost per ton of new combatants would make ship-for-ship replacement prohibitively expensive. Indeed, considering manpower/maintenance constraints, this may not be feasible. The force in the year 2000 will therefore be somewhat smaller than that of today. Newer units, however, will generally be larger than those being replaced and will be equipped with more sophisticated weapon systems. This leads us to expect the following developments:

- The size of the modern ballistic missile submarine force will remain roughly constant—between 60 and 70 units—through the mid-1990s. The number of units in the overall SSB/SSBN force (now 79) will decline as older units (G-class SSBs and H-class and older Y-class SSBNs) are converted or retired. The new units will incorporate improved sound quieting, self-defense, communications and propulsion systems, and will carry as many missile tubes as most or all of those units retired after 1984. In the absence of an arms-control or reduction treaty, the number of SLBM launch tubes carried by the SSBN force is likely to increase. Regardless, the numbers of warheads will grow significantly because of the deployment of new MIRVed systems.
- The first unit of the new class of 65,000- to 75,000-ton nuclear-powered aircraft carriers probably will become operational by about 1990. A total of four or five is expected by the year 2000.
- The number of principal surface combatants probably will decline somewhat—to about 260 units. New construction programs are likely to include one or two new classes of nuclear-powered guided-missile cruisers (CGNs); two

new classes of guided-missile destroyers (DDGs); and three or four new classes of frigates. As a result of these programs, the trend toward larger average unit size, greater weapons loads, and more sophisticated air defense and antisurface weapons, sensors, and electronic warfare systems will continue, thereby improving the Soviet Navy's capability for sustained operations.

- The overall number of general purpose submarines probably will decline to about 240 units, but the number of nuclear-powered units probably will grow substantially to about 70 percent of the force. New classes probably will include three SSGN and three SSN classes. These units should continue the trend toward quieter platforms with improved propulsion and sensors, and increased command and control capability. Construction of improved diesel submarines with greater submerged endurance will also continue. At least one new SS class is expected by the mid-1990s.
- The Soviet Navy's overall amphibious assault lift capability will increase gradually. A follow-on to the Ivan Rogov-class assault ship (LPD) and a new class of tank landing ship (LST) will be introduced. Construction of smaller units, including air cushion vehicles (ACVs), will also continue. Emphasis on amphibious utility in merchant ship construction—especially for Ro/Ro and barge carrier (LASH) ships—will remain unchanged. Soviet interest in the use of helicopters in amphibious assault may lead to construction of a helicopter assault ship (LPH or LHA) in the 1990s. We expect modest growth in the size of the naval infantry from about 16,000 to about 22,000 to 26,000 men.
- The Soviet Navy's underway replenishment capabilities could be enhanced by the introduction of one or more new classes of multipurpose replenishment ships. Construction of such ships, however, is likely to continue receiving a lower priority than the construction of the ships they are intended to support.
- The number of fixed-wing naval combat aircraft will increase substantially, with the major changes being the first deployment to sea of high-performance CTOL aircraft as part of the air group on the first aircraft carriers and the introduction to SNA of the Backfire follow-on or, less likely, Blackjack bomber. Maritime strike

aircraft—both SNA and AAVGK—will be an essential element in the Soviets' attempts to expand their sea control/denial efforts against Western surface forces in vital areas such as the Norwegian, North, and Mediterranean Seas and the Northwest Pacific Basin. These bombers will also remain a principal feature of Soviet antisurface capabilities in other areas such as the Arabian Sea.

The construction program we project does not overtax Soviet industrial capacity. Production facilities for naval equipment have expanded by some 65 percent since 1970 and could accommodate substantial increases in demand, especially for submarines, if the Soviet leadership opted to expend the capital resources and fully mobilize the work force.

141. We believe that major technical improvements in Soviet fleet air defense are likely during the period of this Estimate. New SAMs, guns, and laser weapons will probably be introduced and radioelectronic combat measures will continue to receive a high priority. Fighter aircraft operating from the projected CTOL carriers of the Northern and Pacific Ocean Fleets, probably in cooperation with AWACS and possibly AEW aircraft, will add a new dimension to the Navy's air defense resources. Fleet air defenses will be better coordinated through digital data links between AAW commanders and surface and air platforms. Nonetheless, we expect only gradual improvement in overall AAW effectiveness because of the complexity of managing and coordinating force air defense, and the paucity of Soviet experience in that area. In any event, we cannot confidently assess the net effect of these changes on the ability of Soviet surface forces to defend themselves against air attack during a war with NATO. Such an assessment is highly dependent on tactical variables. The performance characteristics of key systems, such as the SA-N-6, are not yet fully understood. Changes in the Soviet Navy's air defense systems will be occurring simultaneously with those in Western antiship capability, including the introduction of large numbers of cruise missiles. Despite these uncertainties, the major Soviet commitment to the construction of large surface combatants persuades us that the naval leadership probably judges the overall result of changes in air defense capability as sufficient to support the wartime deployment of surface units farther from Soviet territory in a gradual expansion of their intended sea control areas.

142. Expansion of both sea control and sea denial operations would be supported by gradual improve-

ments in Soviet capability to surveil Western surface units and provide targeting assistance for antiship missile attacks. Improved over-the-horizon targeting would allow individual Soviet units to make better use of the range of their missiles, thereby covering a broader ocean area. Much of the improvement we expect in surveillance and targeting will involve satellite systems. We believe that the Soviets will introduce by the early 1990s an improved EORSAT with the capability to detect and identify additional types of radars. The new EORSAT is likely to be able to locate emitting units with an accuracy [] sufficient for targeting over a broader area than is currently possible. By the late 1990s, we believe further improvements in the EORSAT are likely to result in near-continuous targeting capability by use of higher orbits, better sensors, and expanded fields of view. A new RORSAT probably will also be introduced with improvements in probability of detection and a wider field of view. It is also probable the Soviets will produce a new radar satellite for improved all-weather surveillance. We expect that the improved EORSAT and RORSAT may be used in cooperation with a satellite data relay system to provide real-time battle management information to command authorities ashore. In addition, during the period of this Estimate, advances in maritime surveillance from manned space vehicles can be expected, including routine reporting of naval surface targets. The use of satellites, however, cannot be considered exclusively in the context of Soviet naval operations. Such use will continue to provide one of the many linkages between naval operations and overall Soviet military strategy. The Navy's ability to use satellite systems in wartime would depend on such nonnaval factors as the extent to which antisatellite warfare would be conducted at the outset of war and the ability of satellites to survive Western attack. Recognizing the danger of being dependent on any single system, the Soviet Navy will continue to integrate surveillance and targeting support from satellites with that from traditional platforms such as manned aircraft and possibly from new systems such as reconnaissance drones.

143. The Soviets probably recognize that future operations in areas such as the southern Norwegian Sea will place greater demands on the Navy's command, control, and communications system because of factors such as larger operating areas, more emphasis on the integration of diverse platforms, and the need to counter a greater number of high-value targets. We expect the Soviets to respond to this challenge by

improving their capabilities in technical areas such as satellite communications, very-low-frequency communications support to submarines, and low-probability-of-intercept systems, and by striving for greater automated data system compatibility. Another major trend will include increased automation to support battle management at all levels of the command structure. We believe that the major emphasis in the command, control, and communications system will continue to be on centralized control of wartime operations, but the creation of "mixed force" groups could indicate an intention by the fleet staffs to delegate a larger portion of their battle management responsibilities to lower command levels.

144. In addition to its primary initial wartime tasks, the Soviet Navy also will continue to be responsible for supporting ground forces in the land TVDs and for interdicting sea lines of communication. Antiship and ASW operations by the Baltic Fleet in the North Sea and the Black Sea Fleet in the Mediterranean probably will receive increased emphasis to counter the growing capability of Western naval forces to strike targets in the land TVDs from increased ranges. Despite increased capabilities for power projection in distant areas, Soviet amphibious forces will continue to be structured primarily for landings close to Warsaw Pact territory during a war with NATO. Initial anti-SLOC actions probably would include a bombing and mining campaign against European ports by some SNA aircraft and attack submarines.

145. The relatively low priority of open-ocean SLOC interdiction as an initial wartime task in Soviet naval strategy probably will not change substantially through the period of this Estimate. The Soviets will still have insufficient assets to mount a major open-ocean anti-SLOC operation in the early stages of a NATO-Warsaw Pact war simultaneously with their other, more critical sea control/denial missions. The naval improvements we project might, however, by the mid-1990s permit committing some additional Northern and Pacific Ocean Fleet assets (primarily older SSNs) to open-ocean anti-SLOC actions from the first days of the conflict without appreciably weakening their SSBN protection or defense of the homeland posture. But we believe it is more likely under those conditions that frontline forces not required for sea control/denial operations would instead be assigned other tasks such as anti-SSBN missions (in the case of submarines) or combined-arms land TVD tasks (in the case of SNA/AAVGK assets). A prolonged prehostilities mobilization period or a protracted conventional

war with NATO (that is, one lasting more than a couple of months) would increase the importance of the anti-SLOC mission to the Soviets and could lead them to mount a major open-ocean naval operation against the US reinforcement/resupply of Europe. The Soviets almost certainly would defer any such major open-ocean anti-SLOC operation, however, until after they had successfully completed their sea control/denial tasks and weakened NATO's capability to protect its sea lanes.

146. Soviet naval out-of-area operations in peacetime will continue to focus on maintaining permanent presence in areas such as the Mediterranean, Arabian, and South China Seas, and off the west coast of Africa. We expect the Soviets will attempt to expand their level of naval activity in areas such as the Caribbean and Philippine Seas, and the southwest Indian Ocean islands. They also are likely to step up efforts to acquire access to foreign naval support facilities, although they are unlikely in the near term to gain much access in areas where there is not now a Soviet presence. The Soviets undoubtedly will continue their traditional techniques of naval diplomacy ranging from routine show-the-flag port visits to demonstrations of support for client states during crisis situations and limited wars. Given the likelihood of continued instability in the Third World, the use of such naval diplomacy and power projection techniques probably will increase during the 1980s and 1990s.

147. A major change in the Soviet Navy during the period of this Estimate will be the achievement for the first time of an ability to project significant power ashore in distant areas in a limited war environment—that is, one that does not involve a confrontation between the Warsaw Pact and NATO. Although we believe that Soviet naval programs are motivated primarily by requirements for a general war with NATO, new platforms and weapon systems will help to close some of the current gaps in Soviet capability to conduct such distant area operations. In particular, the ability to form a task force around two or three CTOL aircraft carriers will give the Soviet Navy its first significant capability to provide tactical air support for ground force operations and amphibious landings by Soviet or client forces in distant areas. The new medium-caliber gun and air defense systems on new classes of surface ships and the probable acquisition of additional large amphibious ships and a seaborne assault helicopter (perhaps Helix B) will also improve the Soviet Navy's capability to conduct opposed landings.

148. These enhanced capabilities will give the Soviets the option to use naval force in a number of Third World situations against all but the most well-armed regional powers. Because the Soviets probably will have, at most, five CTOL carriers by the year 2000, they would have to draw on the assets of more than one fleet to assemble a force sufficient to conduct an opposed distant-area landing. The assembly of such a force at a great distance from the USSR would seriously undermine the Soviet Navy's ability to perform its priority strategic offensive and defensive missions in the event of escalation to general war. We believe, therefore, that major Soviet naval task force participation in Third World conflicts will be restricted to limited war situations in which the Soviets judged the risk of escalation to a war with the United States or NATO to be small.

149. Perhaps the most compelling argument against a more ambitious power projection strategy during the period of this Estimate is our judgment that programs directly supporting the Navy's strategic offensive and defensive tasks will continue to receive top priority in the allocation of the Soviet Navy's budget. Other factors which cast doubt on a significantly increased power projection commitment in the near term include the following:

- The naval infantry's growth has been modest. Since its reestablishment in 1963 it has grown to a current strength of about 16,000.
- LPD construction has ceased.
- Only one Berezina AOR was built (IOC 1977), and no other large naval replenishment/logistics units are known to be under construction.

150. The likelihood of an ambitious naval power projection strategy during the period of this Estimate is further reduced by the practical difficulties involved in rapidly constructing a large number of CTOL aircraft carriers, the most important instruments of such a mission. We estimate that the Soviets will continue to construct such carriers at the same Nikolaev shipyard on the Black Sea that built the Kiev-class aircraft carriers. This facility has been specially configured at great expense (including the installation of the USSR's largest overhead gantry cranes) for the construction of such large warships. We estimate that this yard, if operating at a normal construction pace, will be able to launch one large CTOL aircraft carrier every three or four years, with the first unit being launched in 1985. It is possible for the Soviets to construct carriers at a faster rate by using additional, less suitable shipyards or by placing construction at

Nikolayev on a crash basis. Neither option is now being pursued, however, and such practices would be inconsistent with past Soviet experience when constructing new types of large combatants. (Construction of the new carrier is proceeding at virtually the same pace as that of the first Kiev-class carrier. Kiev's keel was laid in 1970 and sea trials followed almost five years later.) We believe that the Soviets recognize the complexity of building and operating CTOL carriers and are likely to develop this capability at a slow-but-sure pace. For these reasons, we reject the concept of a Soviet Navy in which power projection by major naval task forces plays a dominant role.

B. Alternate Courses of Development

151. Our best estimate on the future of the Soviet Navy reflects our judgment that the trends we have observed in ship construction, naval doctrine, and strategy over the past 20 years will continue. The following paragraphs discuss three variables that could precipitate major changes in the Soviet Navy of the 1990s: a major Soviet ASW breakthrough, a strategic arms reduction treaty, and a severe economic crisis that forces a cut in military spending; and, as a special case—not necessitating such sweeping changes—a shift in Soviet military doctrine toward increased emphasis on protracted conventional war.

152. *An ASW Breakthrough.* The development that would result in the most profound change in Soviet wartime strategy from that outlined above would be an ASW breakthrough that gives the Soviets the capability to detect and track enemy submarines in the open ocean—a breakthrough derived from one of the many research efforts they are conducting on acoustic and nonacoustic sensors. Although unlikely throughout the period of this Estimate, such a breakthrough would substantially increase the Soviet Navy's ability to perform the critically important strategic defensive tasks of destroying enemy ballistic missile and land attack cruise missile submarines before they launched their missiles. It would also increase the Soviets' ability to protect their SSBNs, because enemy attack submarines could be identified and attacked long before they closed Soviet SSBN bastions.

153. We believe an ASW breakthrough would lead to major changes in the way the Soviets would deploy their general purpose forces, particularly attack submarines, before and during a general war. During the prehostilities phase, the Soviets probably would opt to deploy substantial numbers of SSNs to suspected enemy SSBN operating areas, in choke points, and in

likely transit lanes near enemy submarine bases. These nuclear-powered attack submarines would attempt to gain contact and maintain trail on detected Western submarines. Fewer submarines would be available for SSBN protection, unless or until the Soviet SSN order of battle were increased. Surface and air units probably would also be deployed farther forward. Planning for these operations probably would lead to a greater effort to expand access to and acquire foreign facilities, particularly to support ASW aircraft.

154. The development of a reasonable capability to detect and trail Western SSBNs in the open ocean would provide the Soviet Navy with a powerful argument for increased budgetary allocations. The Navy could argue persuasively that it could not effectively counter enemy strategic submarines and ensure the survivability of its own SSBNs without a substantial increase in forces, especially in SSN production rates. Given this choice, the Soviet leadership could grant the Navy increased funds for a greater SSN construction effort, perhaps twice as many units per year as the six to seven we currently expect.

155. If there were an initial detection breakthrough, we cannot rule out the possibility that the Soviets would explore techniques for destroying submarines, especially SSBNs, by means other than the traditional reliance on general purpose naval platforms. There have, for example, been references in Soviet writings to the possible use of land-based ballistic missiles against submarines in the open ocean. Exploring such a technique would be consistent with past Soviet interest in innovative solutions to naval problems—

It would also be consistent with Soviet doctrinal emphasis on a multi-service approach to the accomplishment of wartime tasks. The Soviets are probably aware of the myriad technical problems likely to be encountered in any such use of land-based missiles including:

- The need to develop a remote sensor that could precisely locate SSBNs in the open ocean and constantly update that position.
- The need to develop a system that could rapidly update the trajectory of a ballistic missile in flight to compensate for target movement.
- The need to solve fuzing problems associated with a warhead surviving water impact from high altitude.

We are skeptical that such problems could be overcome, at least during the period of this Estimate, and

believe the Soviets would be unlikely to pursue seriously such a course unless they had high confidence that the initial detection problem would soon be solved. This example is mentioned, however, to illustrate that a breakthrough in ASW detection could lead to radical changes, not only in the Navy, but in overall Soviet military strategy.

156. *Strategic Arms Control.* Arms control negotiations could play an important part in determining the role within Soviet strategy and the force composition of the Soviet Navy in the 1990s. For example, severe restrictions on SLCM characteristics/deployment, or a ban, would alleviate a serious maritime threat to the USSR and eliminate much of the pressure to conduct sea denial operations at greater distances from Soviet territory. Provisions governing strategic ballistic missile force levels could have a significant impact upon general purpose force programs because a substantial portion of those forces will remain dedicated to protecting Soviet SSBNs. An arms control provision simply limiting or freezing SSBN/SLBM levels probably would have little impact upon Soviet general purpose programs, although—as we have seen—SSGN/SSN construction could increase somewhat as facilities dedicated to SSBNs shifted to general purpose programs. Plans to protect Soviet SSBNs probably would not be affected by such a freeze/reduction. On the other hand, an agreement calling for a sharp reduction in land-based ballistic missile systems, which would be likely to encourage both the United States and the Soviet Union to move a greater percentage of their strategic arsenals to sea, could provide strong justification for increased production of ASW-capable general purpose forces to protect the increased number of Soviet SSBNs. If a treaty encouraging a “move to sea” were signed, we would expect increases in the production of SSNs, Bear F or follow-on ASW aircraft, and ASW-oriented surface ships such as the Udaloy. Although a US move to sea could also justify an increased Soviet anti-SSBN effort, we do not believe the Soviets would allocate significantly increased forces against Western SSBNs unless they had first achieved an ASW breakthrough allowing them to reliably detect and localize enemy submarines in the open ocean.

157. *Severe Economic Stringencies.* The Soviets' ability to sustain the ambitious naval program we project in our baseline estimate may ultimately depend upon the health of the Soviet economy and the willingness of future leaders to continue the current policy of favoring guns over butter. We have no evidence of a Khrushchevian inclination within the next generation of Soviet leaders to bolster the economy

by cutting military spending. Indeed, we believe such a cut would be unlikely, at least through the 1980s, particularly in view of the current US military build-up, the increasing capabilities of Western navies, and the possibility of the United States' developing effective space-based defenses against nuclear attack. It nonetheless is conceivable that the post-Chernenko elite will be forced to curb military spending, especially if agricultural performance and the economic growth rate decline dramatically through the 1980s and/or arms control agreements allow significant economies.

158. With the possible exception of the Strategic Rocket Forces, budgetary cuts driven primarily by severe economic stringencies probably would fall on all branches of the Soviet armed forces. Within the Navy, programs considered fundamental to its primary strategic offensive and defensive tasks, such as SSBNs, attack and cruise missile submarines, and land-based strike and ASW aircraft, probably would suffer few, if any, cuts. Rather, some cutbacks or slowdowns in programs relating more to distant-area power projection and sea control capabilities—such as principal surface combatants, amphibious ships, and naval auxiliaries—could be expected. It is conceivable, however, that, through a combination of factors, budget cuts could fall more heavily on the Soviet Navy, resulting in substantial cuts in surface ship programs. These factors include:

- A new political leadership that lacks a commitment to building a large balanced navy and/or is less inclined to use naval forces as instruments of foreign policy to project Soviet power and influence in distant areas.
- A new chief of the Soviet Navy who lacks Admiral Gorshkov's influence within the political and military hierarchies and/or does not fully share his vision of a blue-water navy in which large surface combatants play a prominent role. Fleet Admiral Chernavin, Gorshkov's most likely successor, for example, is a submariner and could be more inclined to push for the construction of additional attack submarines.
- Technical advances in antiship weaponry and targeting that convince the Soviets that large surface ships are too costly and vulnerable, and that ASW and ASUW tasks assigned to large surface combatants can be done more effectively by smaller combatants, submarines, and land-based aircraft.

159. It is doubtful that the leadership that follows Chernenko will be inclined to make major policy departures such as cutting defense spending growth, at least initially. A decision to make significant reductions in military spending probably would be impossible until the next generation of Soviet leaders is firmly in place; one man has emerged as first among equals; and the perceived "correlation of forces" permits such a move. Since this process is likely to take at least several years, a decision to cut naval programs could not be made until the late 1980s. By that time, most of the major surface combatant programs currently under way should be nearing completion. Any reductions then probably would come in Soviet programs we project for the late 1980s and 1990s. Programs that could well be deleted or sharply reduced in order to comply with a significant cut in naval spending include:

- The 65,000- to 75,000-ton nuclear-powered aircraft carriers. The first unit of this class, and possibly the second, should be too near completion to be affected by a budgetary decision made in the late 1980s. The projected follow-on class would be subject to cancellation.
- New class(es) of nuclear-powered cruisers.
- New classes of large amphibious ships (LPDs and LPHs) and underway replenishment ships.

In addition, the Soviets may opt for early retirement of some older destroyers and frigates and construct fewer units than originally programmed of new classes to follow the Sovremennyy and Udaloy DDGs. Programs clearly identified with coastal ASW and SSBN protection, such as the projected follow-on classes for the Krivak and Grisha frigates, probably would be least affected by a sharp budgetary cutback.

160. The net result of cuts in surface ship programs such as those outlined above would be a navy with much less capability than the one projected in our baseline estimate to control waters beyond the range of land-based tactical aircraft and to project power in distant areas. By the mid-1990s, such cuts could reduce the overall size of the surface navy by as much as 20 percent, lessening Soviet capabilities to sustain current peacetime deployment levels in areas such as the Mediterranean and South China Seas, the Indian Ocean, and off the coast of West Africa. The Soviets probably would attempt to compensate for any reduction in surface navy capabilities to perform key strate-

gic defensive tasks by relying even more on advances in antiship missiles that could be launched from aircraft, submarines, and land, and receive targeting information from satellites. In addition, they might stress nonnaval solutions to maritime threats, such as land-based antiballistic missile and air defense systems to counter SLBMs and SLCMs, an even greater maritime role for the Soviet Air Force, and, possibly, land-based ballistic missiles against surface targets.

161. *A Shift in Soviet Military Doctrine.* Some open-source Soviet military writings, particularly since the early 1980s, have dealt with the possibility that a war with NATO could remain conventional for an extended but unspecified period. Soviet General Staff exercises and classified writings continue to portray Warsaw Pact-NATO wars as lasting no more than a couple of months and leading to a nuclear exchange. The discussion of extended conventional warfare in open-source writings suggests, however, the Soviets are looking at developments in the military balance which could reduce the likelihood of either side's quickly achieving a decided military advantage which would compel the opponent to escalate to the use of nuclear weapons.

162. Should Moscow become convinced that a protracted conventional NATO war was a distinct possibility, we would expect to see discussion of this doctrine in classified writings. Eventually, we would notice a trend in their military exercises signaling this shift, and we would find changes in military construction, procurement, and development with an even greater emphasis on sustainability.

163. To develop the capability to conduct protracted conventional naval warfare, aimed primarily at assisting the Warsaw Pact advance and holding territory in Central Europe, we would expect the Soviet Navy to devote increased attention to:

- SLOC interdiction.
- At-sea replenishment and reprovisioning.
- Amphibious warfare and naval infantry developments.

164. It should be noted that, even in a protracted conventional war, the Soviets would continue to emphasize their two current primary missions—strategic offense and defense—for they could not be sure of neutralizing NATO's nuclear threat. Such a doctrinal shift would not therefore entail major changes in Soviet force employment for these initial wartime

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tasks. Nevertheless, we would expect to see changes required by anti-SLOC and sustainability requirements. These would be manifested by:

- More attention to these roles in doctrinal writings.
- Open-ocean anti-SLOC exercises and practice deployments.
- A significant increase in the size of the general purpose submarine force through construction of numerous submarines (including new diesel classes) with the following characteristics: fast, long-legged, large conventional weapons load, and relatively cheap.
- Construction of numerous replenishment ships, particularly for submarine support.

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